



# United States Department of the Interior

NATIONAL PARK SERVICE  
FIRE ISLAND NATIONAL SEASHORE  
120 Laurel Street  
PATCHOGUE, NEW YORK 11772  
(631) 289-4810

IN REPLY REFER TO:

April 19, 2005

L7671

## Memorandum

To: Regional Director, Northeast Region

From: Superintendent

Subject: Finding of No Significant Impact (FONSI), Fire Island National Seashore,  
Personal Watercraft Use

## INTRODUCTION

The National Park Service (NPS) prepared an environmental assessment (EA) that evaluated a range of alternatives and strategies for the management of personal watercraft (PWC) use at Fire Island National Seashore in order to ensure the protection of park resources and values while offering recreational opportunities as provided for in the national seashore's enabling legislation, purpose, mission, and goals. In accordance with the National Environmental Policy Act of 1969 (NEPA), NPS is taking action to adopt special regulations to manage PWC use within park units.

In May 1998 the Bluewater Network filed a petition urging the NPS to initiate a rulemaking process to prohibit PWC use throughout the national park system. In response to the petition, the NPS issued an interim management policy requiring superintendents of parks where PWC use can occur but had not yet occurred to close the unit to such use until the rule was finalized. The National Park Service envisioned the servicewide regulation as an opportunity to evaluate impacts from PWC use before authorizing the use. On March 21, 2000, the NPS issued a regulation prohibiting PWC use in most units and required 21 units, including Fire Island National Seashore, to determine the appropriateness of continued PWC use.

In response to the PWC final regulation, Bluewater Network sued the NPS, challenging the National Park Service's decision to allow continued PWC use in 21 units while prohibiting PWC use in other units. In response to the suit, the NPS and the Bluewater Network negotiated a settlement. Each of those parks desiring to continue long-term PWC use must promulgate a park-specific special regulation. In addition, the settlement stipulates that the NPS must base its decision to issue a park-specific special regulation to continue PWC use through an environmental analysis conducted in accordance with the National Environmental Policy Act. The NEPA analysis at a minimum, according to the settlement, must evaluate PWC impacts on water quality, air quality, soundscapes, wildlife, wildlife habitat, shoreline vegetation, visitor conflicts, and visitor safety.

On April 11, 2002, PWC use was discontinued at Fire Island National Seashore. Since PWC use was discontinued, Fire Island National Seashore has identified a preferred alternative that resumes limited PWC use under a special regulation with new management strategies and geographic restrictions.

## ALTERNATIVES CONSIDERED

The purpose of the EA was to evaluate the effects of a special regulation to address the use of PWC within the national seashore boundaries. The EA evaluated four alternatives considering the use of personal watercraft at Fire Island National Seashore:

- **Alternative A** would establish, through regulation, the PWC policies that existed prior to 2002 when PWC use was permitted throughout Fire Island National Seashore.
- **Alternative B** would limit PWC use to areas adjacent to beach communities.
- **Alternative C** would allow PWC access to the national seashore with additional management and geographic restrictions.
- The **no action alternative** would retain the current discontinuation of all PWC use within the national seashore.

## PREFERRED ALTERNATIVE

The NPS preferred alternative and the environmentally preferred alternative is the modified alternative C (hereafter referred to as alternative C; see Errata for modifications). This alternative would allow for the limited use of PWC under a special regulation with additional management and geographic restrictions. With the adoption of the special regulation under alternative C, PWC users would be allowed to operate in:

- Great South Bay from the western boundary of the national seashore adjacent to Robert Moses State Park, east to the western boundary of the Sunken Forest, excluding any area within 1,000 feet of the national seashore shoreline, including East Fire Island and West Fire Island.
- Navigation channels marked by buoys or identified on the NOAA navigational chart (12352) to include access channels to and from Fair Harbor, Dunewood, Lonelyville, Atlantique, Cherry Grove, Fire Island Pines, Davis Park, Moriches Inlet, and to the communities of Kismet, Saltaire, Ocean Beach, Ocean Bay Park, Point O'Woods, Oakleyville, and Water Island at "flat-wake speed" (maximum of 6 mph).
- The Long Island Intracoastal Waterway within the park boundaries.

PWC use would be limited to speeds of greater than flat-wake speed in the ferry and navigation channels that access the communities. State and local regulations for travel in ferry channels would be enforced. All the channels that provide access to the communities are marked with buoys and regulated by the U.S. Coast Guard and all the channels are identified on National Oceanic and Atmospheric Administration navigation charts.

## ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which is guided by the Council on

Environmental Quality (CEQ). The CEQ provides direction that “[t]he environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA’s Section 101”:

fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

assure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings;

attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;

preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;

achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life’s amenities; and

enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The environmentally preferred alternative is alternative C because it would provide a high degree of protection to the water and air quality, soundscapes, wildlife and wildlife habitat in nearshore and shoreline habitats of Fire Island National Seashore from adverse effects of PWC use within the exclusion areas. Alternative C would allow limited PWC access to the national seashore and would, therefore, maintain an environment that supports diversity and a variety of individual choice, thus achieving a balance between population and resource use that permits a wide sharing of amenities. Alternative C is the environmentally preferred alternative, best fulfilling park responsibilities as trustee of this sensitive habitat; ensuring safe, healthful, productive, and aesthetically and culturally pleasing surroundings; and attaining a wider range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.

## WHY THE PREFERRED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As documented in the EA, the NPS has determined that the preferred alternative (alternative C) can be implemented with no significant adverse effects to water quality, air quality, soundscapes, wildlife and wildlife habitat, aquatic fauna, threatened, endangered, or special concern species, shoreline vegetation, submerged aquatic vegetation, visitor experience, visitor safety, the socioeconomic environment, and national seashore operations and management. To determine the effects of the preferred alternative, it was compared to alternative A, the project baseline, since PWC were still accessing park waters when the EA analysis first was underway. As defined in 40 CFR §1508.27, significance is determined by examining the following criteria:

**Impacts that may be both beneficial and adverse:** The settlement between NPS and Bluewater Network requires the NEPA analysis to evaluate PWC impacts to water quality, air quality, soundscapes, wildlife and wildlife habitat, shoreline vegetation, visitor conflicts, and visitor safety. PWC with two-stroke engines discharge a gas-oil mixture, which consists of hydrocarbons and polycyclic aromatic

hydrocarbons, into the water, resulting in adverse effects on water quality. At Fire Island National Seashore, hydrocarbon discharges to water are expected to decrease considerably over the next ten years due to mandated improvements in engine technology. The preferred alternative would have a beneficial effect in shoreline areas and for humans swimming in these areas, but an adverse effect on water quality in areas farther offshore. Pollutant emissions such as carbon monoxide, nitrogen oxides, PM<sub>10</sub>, and volatile organic compounds from PWC use may adversely affect air quality, although improved emission controls will result in future emission reductions. Personal watercraft noise may be more disturbing than other motorized vessels because of rapid changes in acceleration and direction of noise. Other sources of noise at Fire Island National Seashore include natural sounds such as waves or wind, other boats, automobiles, all-terrain vehicles, various types of equipment (e.g., lawn mowers), power lines and transformers, and firearms during hunting season. Noise related to boating activity and background noise may be expected to be very high during the summer months. Most visitors during high-use periods expect to hear motorized craft during the day; however, PWC use would be limited and a buffer enforced in some areas of the park resulting in negligible adverse impacts.

PWC use could affect wildlife wherever motorized vessels are allowed. Visitor interactions would not interfere with feeding, reproduction, or other activities necessary for the survival of wildlife species. All impacts to wildlife would be negligible to minor and temporary. Enforcing a buffer zone and no wake zones could contribute to a reduction of adverse impacts to aquatic fauna in nearshore areas. PWC use could also have an effect on sensitive species if watercraft disrupted them during feeding or nesting, or if PWC users accessed shorelines where sensitive species may occur. The preferred alternative would not be likely to affect listed species. Impacts to shoreline and submerged aquatic vegetation would be expected to be minor, with beneficial impacts resulting from the geographic restrictions.

Continued personal watercraft use would result in minor to moderate, long-term adverse impacts on visitor experience and safety, due to the closing of portions of the seashore to PWC use. Minor beneficial impacts would occur for non PWC users; PWC users would still be allowed to operate outside the restricted areas and no-wake zones. No measurable impacts would be expected on the regional economy or the local communities. Adverse impacts to the management and operation of the national seashore would be minor to moderate and long-term, due to existing needs for additional law enforcement capability within the national seashore.

***Degree of effect on public health or safety:*** Implementation of the preferred alternative would result in minor adverse impacts for carbon monoxide and nitrous oxides and negligible adverse impacts for PM. By 2012 adverse impacts to air quality from personal watercraft use would be the same for all pollutants, except VOCs, which would decrease to moderate. Cumulative impacts from all boating activities by 2012 would be negligible adverse for PM, moderate adverse for nitrous oxide, and major adverse for carbon monoxide and VOCs. Any predicted major impact levels, such as those for carbon monoxide and VOCs, were based on the criteria selected for the EA analysis. The State Implementation Plan recognizes that high pollutant levels in this area come from many sources, including motorized watercraft, and it takes this into account in establishing plan provisions and requirements. Also, air pollution resources in the Fire Island area do not contribute to the deterioration of the park's air quality to the extent that the park's purpose is not being met or will not be met, and no key resource damage has been identified due to air quality concerns. Therefore, this major impact would not be expected to result in an impairment to air quality resources.

The potential for personal watercraft related accidents within the restricted use area of the national seashore would be eliminated. No-wake restrictions in the ferryways would reduce the potential for accidents, with negligible to possibly minor adverse impacts. An increased potential for accidents between PWC users and other boaters could occur outside NPS waters.

***Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, wetlands, wild and scenic rivers, or ecologically critical areas:*** As described in the EA, historic or cultural resources would not be affected by the proposed action. There are no wild and scenic rivers within Fire Island National Seashore boundaries.

Impacts to submerged aquatic vegetation would be short-term, minor, and adverse due to the geographic restrictions. Threatened, endangered, or special concern species would not likely be adversely affected with the implementation of the preferred alternative.

***Degree to which effects on the quality of the human environment are likely to be highly controversial:*** As discussed, the EA was written under NEPA as a result of a settlement between the NPS and Bluewater Network. The impetus of the lawsuit was the result of studies in Everglades National Park on PWC use. Studies showed that PWC use resulted in damage to vegetation, adversely impacted shorebirds, and disturbed the life cycles of other wildlife.

Although during the planning and rulemaking process, many comments were received, NPS has concluded that the effects on the quality of the human environment are not significant.

***Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks:*** There were no highly uncertain, unique or unknown risks identified during either preparation of the EA or the public comment period.

***Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration:*** The preferred alternative neither establishes a National Park Service precedent for future actions with significant effects nor represents a decision in principle about a future consideration.

***Whether the action is related to other actions with individually insignificant but cumulatively significant impacts:*** Cumulative effects were analyzed in the EA, and no significant cumulative impacts were identified. Cumulatively, the preferred alternative would result in minor to possibly major water quality impacts resulting from benzene and MTBE. MTBE will no longer be a factor due to the state requirement to phase out MTBE as a gasoline additive. As described in the EA, cumulative impacts to air quality from all boating activities in 2002 and 2012 would be negligible adverse for PM, moderate adverse for nitrous oxide, and major adverse for carbon monoxide and VOCs. Any predicted major impact levels, such as those for carbon monoxide and VOCs, were based on the criteria selected for the EA analysis. The State Implementation Plan recognizes that high pollutant levels in this area come from many sources, including motorized watercraft, and it takes this into account in establishing plan provisions and requirements. Also, air pollution resources in the Fire Island area do not contribute to the deterioration of the park's air quality to the extent that the park's purpose is not being met or will not be met, and no key resource damage has been identified due to air quality concerns. Therefore, this major impact would not be expected to result in an impairment to air quality resources. Noise from PWC and motorized boat use within and near the national seashore would have negligible to minor adverse impacts on other recreational users at other locations within the national seashore. Wildlife and wildlife habitat, aquatic fauna, and shoreline vegetation would experience minor to moderate adverse impacts in areas open to PWC use and beneficial impacts in areas closed to PWC use. Cumulative impacts to visitor experience from personal watercraft use, other watercraft, and other visitor activities would result in negligible to minor adverse impacts to visitor experience and safety. There would be long-term minor to moderate impacts to national seashore operations and management due to increased needs for additional law enforcement capabilities within the national seashore.

***Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific,***

***cultural, or historical resources:*** No cultural resources were identified within the vicinity of existing PWC use areas. No sites sacred to American Indians or other significant ethnographic resources occur in the national seashore boundaries.

***Degree to which the action may adversely affect an endangered or threatened species or its critical habitat:*** Implementation of the proposed action would not likely adversely affect federally listed threatened, endangered or special concern species in Fire Island National Seashore. Piping plovers would not likely be adversely affected by PWC use at Old Inlet as their presence is minimal and transient. In addition, access to nesting areas is prohibited during the nesting season, and a fenced 150-foot buffer from pedestrian disturbance is enforced around breeding birds. Such protective measures would be required for the roseate tern, which are located on West Inlet Island, an area of higher PWC use.

Speed limit restrictions within the channels, closures within the 1,000 foot buffer and closed areas where sensitive shorebird nesting areas are most likely to occur, would reduce the potential for adverse effects. Sea turtles are not likely to be adversely affected by PWC use because the first 1,000 feet from the shore would be closed and they are expected to avoid high use areas as a result of noise and activity. Foraging activities of bald eagles and peregrine falcons could potentially be affected by PWC use. However, because these birds are typically present at the time of year when PWC use is low, adverse effects are not likely. Also, restricting PWC use within 1,000 feet of any shoreline would further minimize potential impacts on sensitive species. Potential effects on the seabeach amaranth are expected to be minimal because foot traffic associated with PWC use would occur only in community marina beach areas where the plant does not occur.

***Whether the action threatens a violation of federal, state, or local environmental protection law:*** The preferred alternative violates no federal, state, or local environmental protection laws.

## IMPAIRMENT OF PARK RESOURCES OR VALUES

In addition to reviewing the list of significance criteria, NPS staff determined that implementation of the preferred alternative would not constitute an impairment of the national seashore's resources and values. This conclusion is based on a thorough analysis of the impacts described in the EA, agency and public comments received, and professional judgment in accordance with the National Park Service's *Management Policies, 2001* (December 27, 2000). As described in the EA, implementation of the preferred alternative will not result in major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Fire Island National Seashore; (2) key to the natural or cultural integrity of the national seashore or to opportunities for enjoyment of the national seashore; or (3) identified as a goal in the national seashore's general management plan or other relevant National Park Service planning documents.

## PUBLIC INVOLVEMENT

NPS published a notice of the availability and the proposed rule in the Federal Register on August 23, 2004 (69 FR 51788). The public was invited to comment on the EA for an approximate 60-day comment period that lasted from September 3 to November 11, 2002, and on the rulemaking from August 23, 2004 to October 22, 2004. The National Park Service documented approximately 4,600 comments regarding the EA. More than 1,300 were in support of continuing PWC use as currently managed and approximately 740 supported the no action alternative, or the complete ban of PWC within Fire Island National Seashore. Approximately 1,600 comments opposed the preferred alternative as originally proposed, prompting the development of the modified alternative C, as described in the

attached Errata. The remaining comments addressed individual items within the EA itself. Changes to the EA text is described on the Errata Sheet attached to this FONSI. A summary of Public Comments and Responses is also attached.

NPS received approximately 530 comment letters regarding the proposed regulation. All letters indicated support for the no action alternative.

## **BASIS FOR DECISION**

The NPS hereby selects alternative C over alternatives A, B, and the no-action alternative to ensure protection of national seashore resources and values. The impacts that would result from the selected alternative (alternative C) would not impair any park resource or value necessary to fulfill specific purposes identified in the national seashore's enabling legislation. The impacts documented in the EA and summarized above would not affect resources or values key to the natural or cultural integrity of the national seashore or alter opportunities for its enjoyment. Alternative C would provide a high degree of protection to the water and air quality, soundscapes, wildlife and wildlife habitat in nearshore and shoreline habitats of Fire Island National Seashore while allowing for access and some recreational use. Therefore, alternative C provides the best balance of resource protection and recreation use. This alternative will not impair national seashore resources and will not violate the NPS Organic Act.

The selected alternative complies with the Endangered Species Act, the National Historic Preservation Act, and Executive Orders 11988 and 11990. There will be no significant impact to local PWC-related businesses.

## **FINDING OF NO SIGNIFICANT IMPACT**

Implementation of the selected alternative will not constitute a major federal action significantly affecting the quality of the human environment. Therefore, in accordance with the National Environmental Policy Act of 1969 and regulations of the Council on Environmental Quality (40 CFR 1508.9), an environmental impact statement will not be prepared for the project.

### **Recommended:**

\_\_\_\_\_  
Michael T. Reynolds  
Superintendent, Fire Island National Seashore

\_\_\_\_\_  
Date

### **Approved:**

\_\_\_\_\_  
Mary A. Bomar  
Acting, Regional Director  
Northeast Region

\_\_\_\_\_  
Date





# Fire Island National Seashore

## Personal Watercraft Use Environmental Assessment

### ERRATA

---

The following changes modify the *Fire Island National Seashore Personal Watercraft Use Environmental Assessment* (August 2002). The changes have been made to modify the preferred alternative and its analysis, to address public comments, and to clarify the text. Text additions are shown with underlines and deletions with strikeout within the affected paragraph.

As a global change, all references to no-wake operations should read flat-wake.

### SUMMARY

Page iii — Change the second paragraph as follows:

They are used for enjoyment, particularly for touring and maneuvers such as wave jumping ~~stunt-like maneuvers~~, and they are capable of designed for speeds up to 70 in the 60 mph range. PWC recreation is the fastest growing segment of the boating industry, representing over one-third of total sales. PWC recreation was ~~is~~ the fastest growing segment of the boating industry through the mid 1990s, representing over one-third of total sales.

Page vi, Table A — Change impacts for alternative C (preferred alternative) as follows:

**TABLE A: SUMMARY OF THE IMPACT ANALYSIS**

Impact Topic	Alternative C: Continue PWC Use <u>under a Special NPS Regulation with Additional Management and Geographic Restrictions</u> <del>but Limit Use to Adjacent Beach Communities and Enforce 1,000-foot Buffer around the National Seashore</del> (Preferred Alternative)
<b>Threatened, Endangered, or Special Concern Species</b>	Threatened or endangered species not likely to be adversely affected. Beneficial impacts to sensitive shorebirds from restricting PWC use <u>to designated channels and ferryways, and from within 1,000 feet of any shoreline west of the Sunken Forest.</u>
<b>Shoreline Vegetation / Wetland Habitats</b> (Also see Submerged Aquatic Vegetation)	Minor impacts to shoreline vegetation; beneficial impacts to tidal wetland habitats from restricting PWC use <u>to designated channels and ferryways, and from within 1,000 feet of any shoreline west of the Sunken Forest.</u>

	Alternative C: Continue PWC Use under a Special NPS Regulation with Additional Management and Geographic Restrictions but Limit Use to Adjacent Beach Communities and Enforce 1,000-foot Buffer around the National Seashore (Preferred Alternative)
Impact Topic	
Visitor Experience	Beneficial impacts to most visitors; minor to moderate impacts to PWC users from closing areas to use, prohibiting use within the 1,000-foot buffer zone, and requiring <del>no</del> flat-wake speed limits in designated channels and ferryways.

## PURPOSE OF AND NEED FOR ACTION

Page 1 — Change the second paragraph as follows:

They are used for enjoyment, particularly for touring and maneuvers such as wave jumping stunt-like maneuvers, and they are capable of designed for speeds up to 70 in the 60 mph range. PWC recreation is the fastest growing segment of the boating industry, representing over one-third of total sales. PWC recreation was ~~is~~ the fastest growing segment of the boating industry through the mid 1990s, representing over one-third of total sales.

## SUMMARY OF AVAILABLE RESEARCH ON THE EFFECTS OF PERSONAL WATERCRAFT

Page 11, “Noise” — Change the last two sentences of the first paragraph to read as follows:

Because of this, the National Park Service contracted noise measurements of personal watercraft and other boat types in 2001 at Glen Canyon National Recreation Area; the preliminary analysis of these data indicates ~~that maximum PWC noise levels~~ maximum levels for PWC-generated noise at 82 50 feet were of approximately 68 to 78 A-weighted dB (dBA). Noise levels for other motorboat types measured during that study were approximately 65 to 86 dBA at 50 feet (Harris Miller Miller & Hanson 2002).

Page 12, “Health and Safety Concerns” — Change the paragraph to read as follows:

~~While PWC Industry representatives report that PWC accidents decreased in some states in the late 1990s, no other research supports their contention. To the contrary, two national studies of PWC accidents and injuries report that personal watercraft pose a clear health and safety risk, primarily to the operators. In the 1990s PWC accidents increased as the popularity of the craft increased. The National Transportation Safety Board reported that in 1996 personal watercraft represented 7.5% of state-registered recreational boats but accounted for 36% of recreational boating accidents. In the same year PWC operators accounted for more than 41% of people injured in boating accidents. PWC operators accounted for approximately 85% of the persons injured in accidents studied in 1997 (NTSB 1998).~~

## ALTERNATIVES

Page 26, Alternative C — The preferred alternative was revised to reflect changes to the overall geographic restrictions, as well as the addition of management restrictions. These changes were made to address concerns related to the potential for confusion as to where PWC use would be permitted. Change alternative C as follows:

**ALTERNATIVE C: CONTINUE PWC USE UNDER A SPECIAL NPS REGULATION WITH ADDITIONAL MANAGEMENT AND GEOGRAPHIC RESTRICTIONS (PREFERRED ALTERNATIVE), BUT LIMIT USE TO AREAS ADJACENT TO BEACH COMMUNITIES AND ENFORCE A 1,000-FOOT BUFFER ALONG ALL SHORELINES WITHIN THE NPS BOUNDARY**

Alternative C would continue to allow PWC ~~in the areas adjacent to~~ access to the national seashore with additional management and geographic restrictions, as in alternative B; however, PWC use would not be permitted in the same areas identified in alternative B and would not be permitted within 1,000 feet of any shoreline (including smaller islands) (see Alternative C map). In addition, PWC operating in ferry ways would be required to maintain a no wake speed. PWC users would be allowed to operate in:

- Great South Bay from the western boundary of the national seashore adjacent to Robert Moses State Park, east to the western boundary of the Sunken Forest, excluding any area within 1,000 feet of the national seashore shoreline, including East Fire Island and West Fire Island.
- Navigation channels marked by buoys or identified on the NOAA navigational chart (12352) to include access channels to and from Fair Harbor, Dunewood, Lonelyville, Atlantique, Cherry Grove, Fire Island Pines, Davis Park, Moriches Inlet, and to the communities of Kismet, Saltaire, Ocean Beach, Ocean Bay Park, Point O' Woods, Oakleyville, and Water Island at "flat-wake speed" (maximum of 6 mph).
- The Long Island Intracoastal Waterway within the park boundaries.

All local, state, and federal laws and regulations relative to PWC use would remain in effect and be enforced by the park.

### ENVIRONMENTALLY PREFERRED ALTERNATIVE

Page 27 — Change the first two sentences of the last paragraph (discussion of alternative C) as follows:

Alternative C would have impacts on park resources and visitor use and experience at Fire Island National Seashore very similar to those described for alternatives A and B; however, it would ~~prohibit restrict PWC use to those areas within the national seashore adjacent to beach communities and would restrict PWC use from a 1,000-foot buffer around all national seashore land west of the Sunken Forest western boundary, allowing PWC to reach adjacent communities through marked channels.~~ In addition, PWC users would be required to maintain flat-wake no-wake speeds within designated channels and ferryways.

Page 33, Map of Alternative C — Replace the map with the revised version provided on the next page

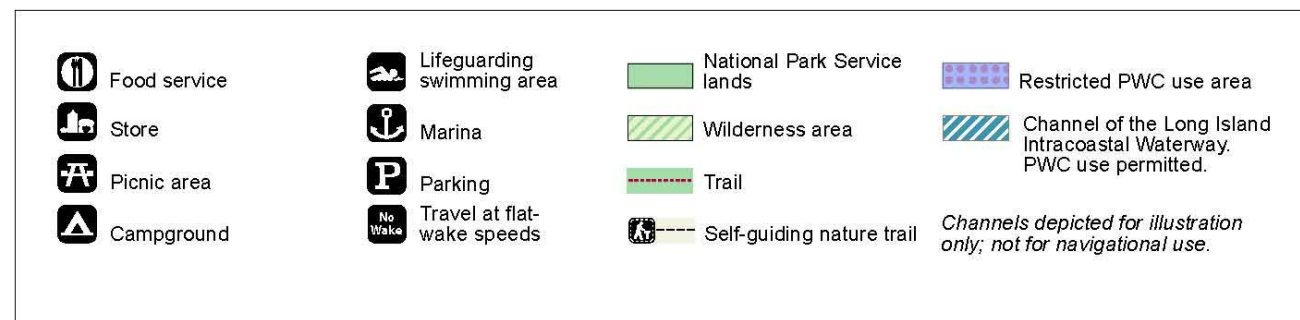
[This page intentionally left blank.]

# Fire Island National Seashore New York

Alternative C --  
Continue PWC Use under  
a Special NPS Regulation  
with Additional Management  
and Geographic Restrictions



United States Department of the Interior/National Park Service WASO/Dec '03/615-20046



[This page intentionally left blank.]

## SUMMARY OF ALTERNATIVES AND IMPACTS

Page 28, Table 1 — Change the summary of alternative C PWC management alternatives as follows:

**TABLE 1: SUMMARY OF PWC MANAGEMENT ALTERNATIVES**

	Alternative C: Continue PWC Use under a Special NPS Regulation with <u>Additional Management and Geographic Restrictions</u> (Preferred Alternative) <del>but Limit Use to Adjacent Beach Communities and Enforce 1,000-foot Buffer around the National Seashore</del>
Use Area	Limit PWC use to areas <u>west of the western boundary of the Sunken Forest; adjacent to beach communities and</u> enforce a 1,000-foot buffer around <del>all</del> park lands, <u>including West and East Fire Islands; and limit PWC use to navigation channels and access channels to designated beach communities.</u>
Other Restrictions	PWC can operate in ferryways <u>and access channels</u> but must maintain a <del>no-flat-wake</del> speed

Pages 40–42, Table 2 — Change the impact conclusions for alternative C as follows:

**TABLE 2: SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact Topic	Alternative C: Continue PWC Use under a Special NPS Regulation with <u>Additional Management and Geographic Restrictions</u> <del>but Limit Use to Adjacent Beach Communities and Enforce 1,000-foot Buffer around the National Seashore</del> (Preferred Alternative)
<b>Threatened, Endangered, or Special Concern Species</b>	Threatened or endangered species not likely to be adversely affected. Beneficial impacts to sensitive shorebirds from restricting PWC use <u>to designated channels and ferryways, and from within 1,000 feet of any shoreline west of the Sunken Forest.</u>
<b>Shoreline Vegetation / Wetland Habitats</b> (Also see Submerged Aquatic Vegetation)	Minor impacts to shoreline vegetation; beneficial impacts to tidal wetland habitats from restricting PWC use <u>to designated channels and ferryways, and from within 1,000 feet of any shoreline west of the Sunken Forest.</u>

Impact Topic	Alternative C: Continue PWC Use under a Special NPS Regulation with Additional Management and Geographic Restrictions, but Limit Use to Adjacent Beach Communities and Enforce 1,000-foot Buffer around the National Seashore (Preferred Alternative)
<b>Visitor Experience</b>	Beneficial impacts to most visitors; minor to moderate impacts to PWC users from closing areas to use, prohibiting use within the 1,000-foot buffer zone, and requiring <del>no</del> flat-wake speed limits in <u>designated channels and ferryways</u> .

## AFFECTED ENVIRONMENT

### SOUNDSCAPES

Page 51 — Add the following two paragraphs after the penultimate paragraph that ends with (Asplund 2001):

Komanoff and Shaw (2000) note that the biggest difference between noise from personal watercraft and that from motorboats is that the former continually leave the water, which magnifies noise in two ways. Without the muffling effect of water, the engine noise is typically 15 dB(A) louder and the smacking of the craft against the water surface results in a loud “whoop” or series of them. With the rapid maneuvering and frequent speed changes, the impeller has no constant “throughput” and no consistent load on the engine. Consequently, the engine speed rises and falls, resulting in a variable pitch. This constantly changing sound is often perceived as more disturbing than the constant sound from motorboats.

Most studies on the effects of noise on soundscapes and human receptors have focused on highway and airport noise. Komanoff and Shaw (2000) used the analytical approaches of these studies to perform a noise-cost analysis of personal watercraft. They concluded that the cost to beachgoers from personal watercraft noise was more than \$900 million per year. The cost per personal watercraft was estimated to be about \$700 per vessel each year or \$47 for each 3-hour “personal watercraft day.” They concluded that the cost per beachgoer was the highest at secluded lake sites, where beachgoers had a higher expectation of experiencing natural quiet and usually invested a larger amount of time and personal energy in reaching the area. However, because there are many more visitors to be affected at popular beaches, noise costs per personal watercraft were highest at crowded sites (Drowning in Noise: Noise Costs of Jet Skis in America [Komanoff and Shaw 2000]).



## ENVIRONMENTAL CONSEQUENCES

### WATER QUALITY

Page 75 — Revise the last paragraph as follows:

A typical conventional (i.e., carbureted) two-stroke PWC engine discharges as much as 30% of the unburned fuel mixture into the exhaust (*NPS 1999a*; California Air Resources Board 1999). At common fuel consumption rates, an average two-hour ride on a personal watercraft may discharge three gallons (11.34 liters) of fuel into the water (*NPS 1999a*). ~~The Bluewater Network states that personal watercraft can discharge between three and four gallons of fuel over the same time period. However, the newer four-stroke technology can reduce these emissions to meet current regulatory standards for both water and air quality (US EPA 1996a). The percentage of emissions of BTEX and MTBE compounds from four-stroke inboard or outboard motors is less than those from a two-stroke outboard engine or an existing two-stroke PWC engine. According to data from the California Air Resources Board, two-stroke PWC engines may consume 5 to 10 gallons of fuel per hour, of which up to 3.3 gallons per hour may be discharged unburned (CARB 1998b). (As described in appendix C, an estimated discharge rate of 3 gallons per hour is used in the water quality impact calculations.)~~

PWIA notes that direct-injection engines have been available in PWC for four years; and three PWC manufacturers introduced four-stroke engines for the 2002 model year (PWIA, May 28, 2002). EPA assumes that the existing two-stroke engine models would not be completely replaced by newer PWC technology until 2050 (40 CFR 89, 90, 91).

### METHODOLOGY AND ASSUMPTIONS

Page 78 — Revise assumption 6, second paragraph, as follows:

In May 2000, Governor George Pataki signed into law legislation to protect New York's water supplies against contamination from MTBE by banning the use, sale, or importation of fuels containing this additive beginning in 2004 (NY State Governor's Office 2000). It is not clear what additive will substitute MTBE. ~~Consequently, emission calculations excluded MTBE after 2004.~~ Governor Pataki also instructed the New York State Department of Environmental Conservation to implement new guidelines to reduce allowable levels of MTBE in surface and groundwater from the previous standard of 50 parts per billion to 10 parts per billion. Calculations for 2002 incorporated an assumed MTBE concentration of 15% in gasoline. As a result of the recently passed New York State law, emission calculations excluded MTBE after 2004.

Page 80 — Revise assumption 11 as follows (beginning with the end of the first paragraph):

The 115 PWC units were assumed to be distributed among all three areas: 64 in area I, 26 in area II, and 25 in area III. Future PWC usage is expected to increase at an annual rate of 1.3%. Consequently, in 2012 on a high-use day 73 personal watercraft are expected in area I, 30 in area II, and 29 in area III.

Similar to the estimation procedure for personal watercraft, motorboat usage (and organic pollutant discharge) was assumed to increase by 1.3% per year between 2002 and 2012. Totals

of 291 motorboats (exclusive of personal watercraft) are expected in area I, 118 in area II, and 114 in area III. The loadings of pollutants for each geographic area were estimated based on four hours a day of maximum PWC and motorboat use. The only exception is area II under alternative C, where each personal watercraft is expected to operate for two hours on a high-use day.

## IMPACT TO WATER QUALITY FROM PWC USE

### Impacts of Alternative A — Continue PWC Use as Currently Managed under a Special Regulation

Page 82, Analysis — Revise Table 16 as follows:

**TABLE 16: THRESHOLD WATER VOLUMES NEEDED TO DILUTE PWC POLLUTANTS, ALTERNATIVE A**

	Area I		Area II		Area III	
	2002	2012	2002	2012	2002	2012
NPS jurisdictional waters (ac-ft)	3,970		2,425		4,580	
Volume of water for the whole bay	16,700		21,140		12,200	
Ecotoxicological Benchmark Volume*						
Benzo(a)pyrene (fuel and exhaust)	350	<del>160</del> 490	140	<del>66</del> 77	140	<del>64</del> 74
Naphthalene	140	<del>64</del> 75	57	<del>26</del> 34	55	<del>25</del> 30
1-methyl naphthalene	710	<del>330</del> 338	290	<del>130</del> 460	280	<del>130</del> 460
Benzene	340	<del>150</del> 480	140	<del>63</del> 73	130	<del>61</del> 70
MTBE (marine, acute)	4.9	banned	2.0	banned	1.9	banned
MTBE (marine, chronic)	14	banned	5.8	banned	5.6	banned
Human Health Benchmark Volume**						
Benzo(a)pyrene (fuel and exhaust)	100	<del>46</del> 54	41	<del>19</del> 22	40	<del>18</del> 24
Benzene	4,400	<del>2,000</del> 2,300	1,800	<del>820</del> 950	1,700	<del>790</del> 940
MTBE	20,000	banned	8,100	banned	7,800	banned

\* Threshold volume (ac-ft) below which ecotoxicological effects might occur.

\*\* Threshold volume (ac-ft) below which human health might be adversely affected.

Page 83 — Change the last sentence of the second paragraph as follows:

In 2012 the benzene threshold volume (~~2,000~~ 2,900 ac-ft) would be less than the water volume under NPS jurisdiction ~~the national seashore water volume~~ in area I.

Page 84, Cumulative Impacts — Change Table 17 as follows:

**TABLE 17: THRESHOLD WATER VOLUMES NEEDED TO DILUTE POLLUTANTS FROM ALL MOTORIZED WATERCRAFT, ALTERNATIVE A**

	Area I		Area II		Area III	
	2002	2012	2002	2012	2002	2012
NPS jurisdictional waters (ac-ft)	3,970		2,425		4,580	
Volume of water for the whole bay	16,700		21,140		12,200	
Ecotoxicological Benchmark Volume*						
Benzo(a)pyrene (fuel and exhaust)	1,800	<u>810</u> <del>940</del>	720	<u>330</u> <del>940</del>	690	<u>250</u> <del>940</del>
Naphthalene	700	<u>320</u> <del>380</del>	280	<u>130</u> <del>940</del>	270	<u>100</u> <del>940</del>

	Area I		Area II		Area III	
	2002	2012	2002	2012	2002	2012
1-methyl naphthalene	3,600	<del>1,600</del> 4,900	1,400	<del>660</del> 940	1,400	<del>510</del> 940
Benzene	1,700	<del>760</del> 900	680	<del>310</del> 940	660	<del>240</del> 940
MTBE (marine, acute)	<del>25</del> 940	banned	10	banned	10	banned
MTBE (marine, chronic)	72	banned	29	banned	28	banned
Human Health Benchmark Volume**						
Benzo(a)pyrene (fuel and exhaust)	500	<del>230</del> 270	210	<del>94</del> 440	200	<del>90</del> 440
Benzene	22,000	<del>9,900</del> 42,000	8,800	<del>4,000</del> 4,800	8,500	<del>3,900</del> 4,600
MTBE	100,000	banned	40,000	banned	39,000	banned

\* Threshold volume (ac-ft) below which ecotoxicological effects might occur.

\*\* Threshold volume (ac-ft) below which human health might be adversely affected.

Page 84, Cumulative Impacts — Change paragraphs two through four as follows (paragraphs three and four are combined):

Results of the water quality analysis for all motorboat activity shows that for all discharged pollutants evaluated, the ecotoxicological threshold volumes estimated for 2002 and 2012 would be below volumes of water available in NPS jurisdictional waters in the three study areas. In 2002 threshold volumes would range from 10 to 3,600 acre-feet, while available volumes within national seashore jurisdictional waters range from 2,425 to 4,580 acre-feet. Only the threshold volume for 1-methyl naphthalene in area I (3,600 ac-ft) would approach the water volume of 3,970 acre-feet. Mixing, flushing, and the resulting dilution from the 16,700 acre-feet of water directly adjacent to park waters would further reduce 1-methyl naphthalene concentrations below ecotoxicological benchmarks. Overall, cumulative water quality impacts based on ecotoxicological benchmarks for all organic pollutants would be negligible.

Human health threshold volumes for benzo(a)pyrene would all be lower than the volume of water under NPS jurisdictional waters in each area, and risks to human health would be negligible in all areas in 2002 and 2012. However, human health threshold volumes for benzene and MTBE would be substantially higher than available water volumes in all three study areas. Threshold volumes of benzene (area I in 2002) and MTBE (all areas in 2002) would also exceed the available water volumes in Great South Bay and Moriches Bay. Benzene threshold volumes are estimated to be up to five times the available national seashore jurisdictional water volume in a study area. MTBE threshold volumes in 2002 would be from 10 to 25 times greater than jurisdictional water volumes. Overall, cumulative water quality impacts based on ecotoxicological benchmarks for organic pollutants would be negligible for all pollutants. None of the pollutants evaluated would have a threshold volume greater than water volumes within national seashore jurisdiction. Similarly, benzo(a)pyrene risks to human health would be negligible for all areas in 2002 and 2012. Potential human health impacts from benzene would be possibly major to moderate in area I in 2002 and 2012 and negligible in area III in 2012. These evaluations of impacts incorporate the five-hour half-life of benzene. For example, in area III the average concentration of benzene would be lower than the human health standard of 10 µg/L in less than five hours after four hours of boating activity. Potential human health impacts from MTBE would range from possibly major in area I in 2002 to moderate in area III in 2002. Monitoring of high-use areas would be needed to determine if major impact levels could actually occur. In 2012, all water quality impacts from motorized craft (including personal watercraft) are expected to be lower than in 2002 due to reduced

emission rates and the ban on MTBE in gasoline in 2004. However, impacts to human health from benzene would remain moderate in area I and minor in area II in 2012. PWC contribution to overall cumulative effects would be negligible.

Page 85, Conclusion — Clarify the second sentence of the third paragraph as follows:

Cumulative human health impacts from benzene under alternative A would range from possibly major to moderate (area I) to negligible (area III). Potential human health impacts from MTBE in 2002 would range from major (area I) to moderate (area III).

### Impacts of Alternative B — Continue PWC Use under a Special Regulation, but Limit Use to Areas adjacent to Beach Communities

Page 85, Analysis — Revise Table 18 as follows:

**TABLE 18: THRESHOLD WATER VOLUMES NEEDED TO DILUTE PWC POLLUTANTS, ALTERNATIVE B**

	Area I		Area II		Area III	
	2002	2012	2002	2012	2002	2012
NPS jurisdictional waters (ac-ft)	3,970		2,425		4,580	
Volume of water in PWC use areas	1,985		1,212		0	
Volume of water for the whole bay	16,700		21,140		12,200	
Ecotoxicological Benchmark Volume*						
Benzo(a)pyrene (fuel and exhaust)	350	<del>160</del> 490	140	<del>66</del> 77	0	0
Naphthalene	140	<del>64</del> 75	57	<del>26</del> 34	0	0
1-methyl naphthalene	710	<del>330</del> 380	290	<del>134</del> 160	0	0
Benzene	340	<del>150</del> 180	140	<del>63</del> 73	0	0
MTBE (marine, acute)	4.9	banned	2.0	banned	0	banned
MTBE (marine, chronic)	14	banned	5.8	banned	0	banned
Human Health Benchmark Volume**						
Benzo(a)pyrene (fuel and exhaust)	100	<del>46</del> 54	41	<del>19</del> 22	0	0
Benzene	4,400	<del>2,000</del> 2,300	1,800	<del>820</del> 950	0	0
MTBE	20,000	banned	8,100	banned	0	banned

Note: This alternative would close half of area I (western area and Fire Islands area), half of area II, and all of area III to PWC use. PWC emissions in areas I and II would remain the same as in alternative A; however, pollutants would be concentrated in smaller areas.

\* Threshold volume (ac-ft) below which ecotoxicological effects might occur.

\*\* Threshold volume (ac-ft) below which human health might be adversely affected.

Page 87, Cumulative Impacts — Revise Table 19 and the first paragraph after the table as follows:

**TABLE 19: THRESHOLD WATER VOLUMES NEEDED TO DILUTE POLLUTANTS FROM ALL MOTORIZED WATERCRAFT, ALTERNATIVE B**

	Area I		Area II		Area III	
	2002	2012	2002	2012	2002	2012
NPS jurisdictional waters (ac-ft)	3,970		2,425		4,580	
Volume of water in PWC use areas	1,985		1,212		0	
Volume of water for the whole bay	16,700		21,140		12,200	
Ecotoxicological Benchmark Volume*						
Benzo(a)pyrene (fuel and exhaust)		<u>810</u>		<u>330</u>		<u>250</u>
	1,800	<del>940</del>	720	<del>390</del>	550	<del>300</del>
Naphthalene		<u>320</u>		<u>130</u>	<u>220</u>	<u>100</u>
	700	<del>380</del>	280	<del>150</del>	<del>2,200</del>	<del>420</del>
1-methyl naphthalene	3,600	1,600	1,400	660	1,100	510

	Area I		Area II		Area III	
	2002	2012	2002	2012	2002	2012
		<del>4,900</del>		<del>780</del>		<del>600</del>
Benzene	1,700	<del>760</del> 990	680	<del>310</del> 370	520	<del>240</del> 280
MTBE (marine, acute)	<del>25</del> 24	banned	10	banned	<del>7.7</del> 7.6	banned
MTBE (marine, chronic)	72	banned	29	banned	<del>23</del> 22	banned
<b>Human Health Benchmark Volume**</b>						
Benzo(a)pyrene (fuel and exhaust)	500	<del>230</del> 270	210	<del>94</del> 110	160	<del>72</del> 86
Benzene	22,000	<del>9,900</del> 12,000	8,800	<del>4,000</del> 4,800	6,800	<del>3,100</del> 3,600
MTBE	100,000	banned	40,000	banned	31,000	banned

Note: This alternative would close half of area I (western area and Fire Islands area), half of area II, and all of area III to PWC use. PWC emissions in areas I and II would remain the same as in alternative A; however, pollutants would be concentrated in smaller areas.

\* Threshold volume (ac-ft) below which ecotoxicological effects might occur.

\*\* Threshold volume (ac-ft) below which human health might be adversely affected.

As shown in Table 19, estimated threshold volumes for cumulative impacts from all motorized activity would be higher than for PWC use alone. However, impacts from the five organics evaluated based on ecotoxicological benchmarks would be negligible. Estimated threshold volumes in 2002 would range from 7.7 & to 3,600 acre-feet, and available water volumes in areas I and II are 1,985 and 1,212 acre-feet, respectively. The threshold volumes for 1-methyl naphthalene in areas I (both years) and area II (2002) would be are greater than the volumes in the PWC-permitted areas, but the majority of this compound is from other motorboats that can operate throughout the park waters under alternative B.

**Impacts of Alternative C — Continue PWC Use under a Special NPS Regulation with Additional Management and Geographic Restrictions, but Limit Use to Areas Adjacent to Beach Communities and Enforce a 1,000-Foot Buffer along all Shorelines within the NPS Boundary**

Page 88 — Revise the discussion of water quality impacts for alternative C as follows:

**Analysis.** Alternative C would continue to allow PWC access to the national seashore with additional management and geographic restrictions (see Alternative C map). PWC users would be allowed to operate only in the following areas:

- Great South Bay from the western boundary of the national seashore adjacent to Robert Moses State Park, east to the western boundary of the Sunken Forest, excluding any area within 1,000 feet of the national seashore shoreline, including East Fire Island and West Fire Island.
- Navigation channels marked by buoys or identified on the NOAA navigational chart (12352) to include access channels to and from Fair Harbor, Dunewood, Lonelyville, Atlantique, Cherry Grove, Fire Island Pines, Davis Park, Moriches Inlet, and to the communities of Kismet, Saltaire, Ocean Beach, Ocean Bay Park, Point O' Woods, Oakleyville, and Water Island at flat-wake speed (maximum 6 mph).
- The Long Island Intracoastal Waterway within the park boundaries.

All local, state, and federal laws and regulations relative to PWC use would remain in effect and would be enforced by the park.

Similar to alternative B, Alternative C would allow PWC use only in certain areas. However, PWC operators would also be required to travel at no-wake speeds (maximum 6 mph) when accessing landing points within the seashore boundary, and a 1,000-foot buffer zone would be enforced around the national seashore lands. This management restriction would contribute to improvement in water quality by reducing resuspension of sediments in shallow waters and reducing emissions of contaminants as a consequence of reduced PWC speeds while accessing landing points. It is assumed that emissions would be reduced by 75% based on data presented in Miller et al. (2003). Allowable areas for PWC activity would be reduced an additional 20% in area I compared ~~in comparison~~ to alternative B due to the buffer zone restriction. In area II only an estimated 220 acre-feet in the four navigation channels described above could be used by personal watercraft. Although beneficial for water quality in shoreline areas, this condition could have an adverse effect on water quality in other areas offshore where PWC use could be concentrated. As in alternative B, it is assumed that the number of PWC users in national seashore waters in areas I and II would be the same as in alternative A. However, PWC use in area II is estimated to be for only two hours on a high-use day. ~~Also, It is assumed that the same number of motorized boats other than personal watercraft would be using all three areas as in alternatives A and B.~~ Estimated threshold volumes needed to dilute PWC emissions are shown in Table 20.

**TABLE 20: THRESHOLD WATER VOLUMES NEEDED TO DILUTE PWC POLLUTANTS, ALTERNATIVE C**

	Area I		Area II		Area III	
	2002	2012	2002	2012	2002	2012
NPS jurisdictional waters (ac-ft)	3,970		2,425		4,580	
Volume of water in PWC use areas	1,588		<del>220</del> 970		0	
Volume of water for the whole bay	16,700		21,140		12,200	
Ecotoxicological Benchmark Volume*						
Benzo(a)pyrene (fuel and exhaust)	350	<del>160</del> 499	<del>18</del> 440	<del>08.3</del> 77	0	0
Naphthalene	140	<del>64</del> 75	<del>7.1</del> 67	<del>3.3</del> 34	0	0
1-methyl naphthalene	710	<del>330</del> 380	<del>36</del> 290	<del>17</del> 460	0	0
Benzene	<del>330</del> 340	<del>150</del> 480	<del>17</del> 440	<del>7.8</del> 73	0	0
MTBE (marine, acute)	4.9	banned	<del>0.2</del> 2.0	banned	0	banned
MTBE (marine, chronic)	14	banned	<del>0.7</del> 5.8	banned	0	banned
Human Health Benchmark Volume**						
Benzo(a)pyrene (fuel and exhaust)	100	<del>46</del> 54	<del>5.1</del> 44	<del>2.4</del> 22	0	0
Benzene	4,400	<del>2,000</del> 2,300	<del>220</del> 4,800	<del>100</del> 950	0	0
MTBE	20,000	banned	<del>1,000</del> 8,100	banned	0	banned

Note: This alternative would close half of area I (western area and Fire Islands area), half of all of area II excluding the navigation channels, and all of area III to PWC use. PWC emissions in areas I and II would remain the same as in alternative A; however, pollutants would be concentrated in smaller areas.

\* Threshold volume (ac-ft) below which ecotoxicological effects might occur.

\*\* Threshold volume (ac-ft) below which human health might be adversely affected.

Water quality impacts under alternative C would be similar to those for alternative B, but they would be somewhat greater in areas of concentrated use due to the 1,000-foot PWC buffer along all shorelines. However, alternative C would reduce impacts in areas along the shallower bay shoreline, where waters may not mix or circulate as much as in the open bay. All

impacts to aquatic life (ecotoxicological benchmarks) from pollutants would be negligible because threshold volumes required in 2002 would range from 0.2 to 710 acre-feet, while water volumes in PWC use areas under NPS jurisdiction range from ~~970~~ 220 to 1,588 acre-feet. Impacts to human health from benzo(a) pyrene also would be negligible. [No changes to rest of analysis.]

Page 89, Cumulative Impacts — Revise the discussion of impacts as follows:

**Cumulative Impacts.** As described above, PWC use would be allowed in only limited portions of areas I and II and would be banned in area III. Other motorboats would not be affected by these restrictions. In comparing threshold volumes with available water volumes, PWC emissions were compared to volumes in the restricted areas, and other motorboat emissions were compared to volumes within park jurisdictional waters (see Table 21). As described above for PWC use, emissions within the PWC use areas would result in more localized impacts, but those impacts would be reduced in most shallower areas along the shoreline because of the 1,000-foot buffer.

Estimated threshold volumes for emissions from all motorized craft under alternative C would be higher than for PWC emissions alone, as seen in Table 21. However, impacts from the five organics evaluated based on ecotoxicological benchmarks would be negligible. Estimated threshold volumes would range from 7.7 & to 3,600 acre-feet, while available water volumes in PWC use areas I and II are 1,588 and 220 ~~970~~ acre-feet, respectively. However, water volumes within the national seashore boundary and in the adjacent bay are substantially larger and would serve to dilute PWC and motorboat emissions. The threshold volumes of 1-methyl naphthalene in area I (2002 and 2012) and area II (2002) would be greater than the volumes in the PWC use areas, but the majority of this compound is from other motorboats, which would be able to operate throughout national seashore waters under alternative C.

**TABLE 21: THRESHOLD WATER VOLUMES NEEDED TO DILUTE POLLUTANTS FROM ALL MOTORIZED WATERCRAFT, ALTERNATIVE C**

	Area I		Area II		Area III	
	2002	2012	2002	2012	2002	2012
NPS jurisdictional waters (ac-ft)	3,970		2,425		4,580	
Volume of water in PWC use areas	1,588		<del>220</del> <del>970</del>		0	
Volume of water for the whole bay	16,700		21,140		12,200	
Ecotoxicological Benchmark Volume*						
Benzo(a)pyrene (fuel and exhaust)	1,800	<del>810</del> <del>940</del>	<del>590</del> <del>720</del>	<del>270</del> <del>390</del>	550	<del>300-250</del>
Naphthalene	700	<del>320</del> <del>380</del>	<del>240</del> <del>280</del>	<del>110</del> <del>150</del>	<del>220</del> <del>2,200</del>	<del>420-100</del>
1-methyl naphthalene	3,600	<del>1,600</del> <del>4,900</del>	<del>1,200</del> <del>4,400</del>	<del>540</del> <del>780</del>	1,100	<del>600-510</del>
Benzene	1,700	<del>760</del> <del>900</del>	<del>560</del> <del>680</del>	<del>260</del> <del>370</del>	520	<del>280-240</del>
MTBE (marine, acute)	<del>25</del> <del>24</del>	banned	<del>8.0</del> <del>40</del>	banned	<del>7.7</del> <del>7.6</del>	banned
MTBE (marine, chronic)	72	banned	<del>24</del> <del>29</del>	banned	<del>23</del> <del>22</del>	banned
Human Health Benchmark Volume**						
Benzo(a)pyrene (fuel and exhaust)	500	<del>230</del> <del>270</del>	<del>170</del> <del>240</del>	<del>77</del> <del>440</del>	160	<del>72</del> <del>85</del>
Benzene	22,000	<del>9,900</del> <del>42,000</del>	<del>7,300</del> <del>8,800</del>	<del>3,300</del> <del>4,800</del>	6,800	<del>3,100</del> <del>3,600</del>
MTBE	100,000	banned	<del>34,000</del> <del>40,000</del>	banned	31,000	banned

	Area I		Area II		Area III	
	2002	2012	2002	2012	2002	2012

Note: This alternative would close half of areas I, and II half of all of area II excluding the navigation channels, and all of area III to PWC use. PWC emissions in areas I and II would remain the same as in alternative A; however, pollutants would be concentrated in smaller areas.

\* Threshold volume (ac-ft) below which ecotoxicological effects might occur.

\*\* Threshold volume (ac-ft) below which human health might be adversely affected.

## Impacts of the No-Action Alternative

Page 91, Analysis — Change Table 22 and the first paragraph after the table as follows:

**TABLE 22: THRESHOLD WATER VOLUMES NEEDED TO DILUTE POLLUTANTS FROM MOTORIZED WATERCRAFT (EXCLUDING PERSONAL WATERCRAFT), NO-ACTION ALTERNATIVE**

	Area I		Area II		Area III	
	2002	2012	2002	2012	2002	2012
NPS jurisdictional waters (ac-ft)	3,970		2,425		4,580	
Volume of water for the whole bay	16,700		21,140		12,200	
Ecotoxicological Benchmark Volume*						
Benzo(a)pyrene (fuel and exhaust)	1,400	<del>640</del> <del>760</del>	580	<del>260</del> <del>310</del>	550	<del>250</del> <del>300</del>
Naphthalene	560	<del>260</del> <del>300</del>	230	<del>100</del> <del>120</del>	2,200	<del>100</del> <del>120</del>
1-methyl naphthalene	2,900	<del>1,300</del> <del>1,500</del>	1,200	<del>530</del> <del>620</del>	1,100	<del>510</del> <del>600</del>
Benzene	1,300	<del>610</del> <del>720</del>	540	<del>250</del> <del>290</del>	520	<del>240</del> <del>280</del>
MTBE (marine, acute)	20	Banned	8.0	banned	<del>7.7</del> <del>7.6</del>	banned
MTBE (marine, chronic)	<del>58</del> <del>57</del>	Banned	24	banned	<del>23</del> <del>22</del>	banned
Human Health Benchmark Volume**						
Benzo(a)pyrene (fuel and exhaust)	400	<del>180</del> <del>220</del>	160	<del>75</del> <del>760</del>	160	<del>72</del> <del>85</del>
Benzene	17,000	<del>7,900</del> <del>9,400</del>	7,100	<del>3,200</del> <del>760</del>	6,800	<del>3,100</del> <del>3,600</del>
MTBE	80,000	banned	<del>33,000</del> <del>32,000</del>	banned	31,000	banned

NOTE: No PWC use would be allowed within the national seashore.

\* Threshold volume (ac-ft) below which ecotoxicological effects might occur.

\*\* Threshold volume (ac-ft) below which human health might be adversely affected.

As can be seen by comparing Table 17 and Table 22, motorboats alone account for approximately 80% of the organic pollutants discharged by motorized watercraft. Impacts from motorboats alone would be negligible for all ecotoxicological impacts and for human health impacts due to benzo(a)pyrene. Human health impacts from benzene would range from moderate in area I to negligible to minor ~~minimal~~ in area III. Impacts from MTBE would be possibly major in area I and moderate in areas II and III. Because MTBE would be banned in 2004, there would be no motorboat-related impacts in 2012 attributable to MTBE.

## AIR QUALITY

### IMPACT TO HUMAN HEALTH FROM AIRBORNE POLLUTANTS RELATED TO PWC USE

Page 96, Impact thresholds — Change the text as follows:



	<u>Activity Analyzed</u>		<u>Current Air Quality</u>
<i>Negligible:</i>	Emission levels would be less than 50 tons/year for each pollutant.	<b>and</b>	The first highest 3-year maximum for each pollutant <del>is would be</del> less than NAAQS.
<i>Minor:</i>	Emission levels would be less than 100 tons/year for each pollutant.	<b>and</b>	The first highest 3-year maximum for each pollutant <del>is would be</del> less than NAAQS.
<i>Moderate:</i>	Emission levels would be greater than or equal to 100 tons/year for any pollutant.	<b>or</b>	The first highest 3-year maximum for each pollutant <del>is would be</del> greater than NAAQS.
<i>Major:</i>	Emission levels would be greater than or equal to 250 tons/year for any pollutant.	<b>and</b>	The first highest 3-year maximum for each pollutant <del>is would be</del> greater than NAAQS.

**Impacts of Alternative C — Continue PWC Use under a Special NPS Regulation with Additional Management and Geographic Restrictions, but Limit Use to Areas Adjacent to Beach Communities and Enforce a 1,000-Foot Buffer along all Shorelines within the NPS Boundary**

Page 99, Analysis — Change the text as follows:

**Analysis.** PWC use under alternative C would be allowed in areas adjacent to beach communities in area I but a 1,000-foot buffer would be enforced around the national seashore lands. In addition, and PWC users would be allowed access to designated beach communities via designated navigation channels and have to operate in ferryways at no flat-wake speeds in areas I and II. Annual assumptions for PWC use are the same as for alternative B — 12,700 boating hours in 2002, increasing to 13,600 boating hours in 2012. It is assumed that air pollution would not be restricted to specific areas, so the impact analysis considers all PWC use together, not by individual areas, as was done for water quality.

**IMPACT TO AIR QUALITY RELATED VALUES FROM PWC POLLUTANTS**

Pages 100–101, Impact thresholds — Change the text as follows:

	<u>Activity Analyzed</u>		<u>Current Air Quality</u>
<i>Negligible:</i>	Emissions would be less than 50 tons/year for each pollutant.	<b>and</b>	There <del>is would be</del> no perceptible visibility impacts (photos or anecdotal evidence).
		<b>and</b>	There <del>is would be</del> no observed ozone injury on plants.
		<b>and</b>	SUM06 ozone <del>is would be</del> less than 12 ppm-hrs.
<i>Minor:</i>	Emissions would be less than 100 tons/year for each pollutant.	<b>and</b>	SUM06 ozone <del>is would be</del> less than 15 ppm-hrs.

	<u>Activity Analyzed</u>	<u>Current Air Quality</u>
<i>Moderate:</i>	Emissions would be 100–249 tons/year for any pollutant. <b>or</b> Visibility impacts from cumulative PWC emissions would be likely (based on past visual observations).	<b>or</b> Ozone injury symptoms <del>is would be</del> identifiable on plants. <b>and</b> SUM06 ozone <del>is would be</del> less than 25 ppm-hrs.
<i>Major:</i>	Emissions would be equal to or greater than 250 tons/year for any pollutant. <b>or</b> Visibility impacts from cumulative PWC emissions would be likely (based on modeling or monitoring).	<b>and</b> Ozone injury symptoms <del>is would be</del> identifiable on plants. <b>or</b> SUM06 ozone <del>is would be</del> greater than 25 ppm-hrs.

*Impairment:* ~~Air quality related values in the park would be adversely affected. In addition,~~  
Impacts would

have a major adverse effect on park resources and values;

contribute to deterioration of the park's air quality to the extent the park's purpose could not be fulfilled as established in its enabling legislation;

affect resources key to the park's natural or cultural integrity or opportunities for enjoyment; or

affect the resource whose conservation is identified as a goal in the park's general management plan or other park planning documents.

**Impacts of Alternative C — Continue PWC Use under a Special NPS Regulation with Additional Management and Geographic Restrictions, but Limit Use to Areas Adjacent to Beach Communities and Enforce a 1,000-Foot Buffer along all Shorelines within the NPS Boundary**

Page 103 — Change the title of alternative C as shown above.

**SOUNDSCAPES**

Page 104 — Delete the introductory text and replace with the following:

Personal watercraft-generated noise varies from vessel to vessel. No literature was found that definitively described scientific measurements of personal watercraft noise. Some literature stated that all recently manufactured watercraft emit fewer than 80 decibels at 50 feet from the vessel, while other sources attributed levels as high as 102 decibels without specifying distance. None of this literature fully described the method used to collect noise data.

The National Park Service contracted for noise measurements of personal watercraft and other motorized vessels in 2001 at Glen Canyon National Recreation Area (Harris Miller Miller & Hanson, Inc. 2002). The results show that maximum personal watercraft noise levels at 25 meters (82 feet) ranged between 68 to 76 decibels on the A-weighted scale. Noise levels for

other motorboat types measured during that study ranged from 65 to 86 decibels at 25 meters (82 feet).

Noise limits established by the National Park Service require vessels to operate at less than 82 dB at 82 feet from the vessel. Personal watercraft may be more disturbing than other motorized vessels because of rapid changes in acceleration and direction of noise.

#### IMPACT TO VISITORS FROM NOISE GENERATED BY PERSONAL WATERCRAFT

##### **Impacts of Alternative C — Continue PWC Use under a Special NPS Regulation with Additional Management and Geographic Restrictions, but Limit Use to Areas Adjacent to Beach Communities and Enforce a 1,000-Foot Buffer along all Shorelines within the NPS Boundary**

Page 111 — Change the text as follows:

**Analysis.** PWC use under alternative C would be allowed in areas adjacent to beach communities in area I but a 1,000-foot buffer would be enforced around the national seashore lands, including West and East Fire Islands. Like alternative B, alternative C would allow PWC use but would limit it to areas adjacent to the beach communities, and a 1,000-foot buffer would be enforced around the national seashore. In addition, PWC users would be required to operate at ~~no~~ flat-wake speeds (maximum 6 mph) within designated access channels and ferryways, which would reduce PWC-generated noise levels. Impacts would be negligible adverse under alternative C. PWC operations at idle would also reduce noise levels farther from the shoreline. Noise reductions at 1,000 feet from shore in area I would be substantial, therefore beneficial.

#### WILDLIFE AND WILDLIFE HABITAT

##### IMPACT OF PWC USE ON WILDLIFE AND WILDLIFE HABITAT

##### **Impacts of Alternative B — Continue PWC Use under a Special Regulation, but Limit Use to Areas adjacent to Beach Communities**

Page 118, Analysis — Clarify the text as follows:

**Analysis.** In areas remaining open to PWC use, impacts on wildlife and wildlife habitat would be short term and minor, similar to those discussed under alternative A. Effects are expected to be minor because species sensitive to a high level of noise and human activity are not expected to regularly use these areas during high use periods. Requirements for PWC users to operate at less than 5 mph within 100 feet of the shoreline would minimize adverse effects associated with rapid approach and noise to wildlife utilizing shoreline habitats.

##### **Impacts of Alternative C — Continue PWC Use under a Special NPS Regulation with Additional Management and Geographic Restrictions, but Limit Use to Areas Adjacent to Beach Communities and Enforce a 1,000-Foot Buffer along all Shorelines within the NPS Boundary**

Page 118, Analysis — Change the text as follows:

**Analysis.** Impacts similar to those discussed under alternative A are expected in areas remaining open to PWC use, with short-term, minor, adverse, indirect impacts because species sensitive to a high level of noise and human activity are not expected to regularly occur in these areas during high use periods. Impacts in areas closed to PWC use would be similar to those discussed for alternative B, with short- and long-term, beneficial impacts to shorebirds, waterfowl, and other fish and wildlife species using shallow water habitats and the shoreline, or within 1,000 feet of any shorelines within the national seashore. Implementing ~~no~~ flat-wake zones in designated channels and ferryways would minimize potential for impacts associated with potential collisions with wildlife and would minimize adverse effects associated with noise fluctuations. Restricting PWC access in most of the shallow water habitat along the national seashore would also enhance the quality of essential fish habitats in these areas, a long-term beneficial impact.

## AQUATIC FAUNA

### IMPACT OF PWC USE AND NOISE ON AQUATIC FAUNA

#### **Impacts of Alternative C — Continue PWC Use under a Special NPS Regulation with Additional Management and Geographic Restrictions, but Limit Use to Areas Adjacent to Beach Communities and Enforce a 1,000-Foot Buffer along all Shorelines within the NPS Boundary**

Page 123, Analysis — Change the first two paragraphs as follows:

**Analysis.** Alternative C is similar to alternative B except that PWC use would be prohibited from all park areas east of the Sunken Forest except for designated access channels. The access channels would be designated as flat-wake zones, within 1,000 feet of the national seashore shoreline. PWC use would still be allowed in areas adjacent to beach communities, as long as they were 1,000 feet from the shore.

Limiting PWC use to access channels and enforcing flat-wake restrictions in the channels to the east of the Sunken Forest ~~Enforcing a 1,000-foot buffer~~ would reduce noise emission intensities in the eastern section of the national seashore nearshore areas. However, as As described in the scientific literature, sound travels faster and with higher intensities in water than in air. Consequently, PWC units operating outside, but adjacent to, the park boundaries 1,000 feet from shore would still have a minor to moderate impact on aquatic fauna within the park. In the long term, ~~minor~~ reductions in noise emissions as a consequence of restricting use to access channels east of the Sunken Forest, enforcing flat-wake restrictions in the access channels, the 1,000-foot buffer, and a potential reductions in noise emissions (as forecasted by the industry) from newer machines, would ~~could contribute to a reduction of adverse impacts to aquatic fauna in,~~ result in beneficial impacts in the eastern section of the national seashore. ~~in nearshore areas.~~ Impacts outside the areas closed to PWC use and the flat-wake zone areas 1,000-foot buffer zone would be similar to those described for alternative B.

Pages 123–24, Cumulative Impacts — Change the text as follows:

**Cumulative Impacts.** The long-term cumulative effects of alternative C would be similar to those of alternative A; that is, motorized watercraft activity in deeper water and in areas outside the national seashore would continue to have moderate to possibly major adverse impacts on aquatic fauna. However, enforcing a 1,000-foot buffer would have a beneficial effect on noise in nearshore waters. Limiting PWC use to access channels and enforcing flat-wake

restrictions in the channels to the east of the Sunken Forest, along with potential reductions in noise emissions from newer machines, would result in long-term, beneficial impacts on aquatic fauna in this area.

Pages 124, Conclusion — Change the conclusion for cumulative impacts as follows:

Cumulative effects would be similar to those described for alternative A in areas with no change expected in remaining open to PWC use and deeper waters or in areas outside the national seashore boundary. Impacts on aquatic fauna would be moderate to possibly major in these areas. Limiting PWC use to access channels and enforcing flat-wake restrictions in the channels to the east of the Sunken Forest, along with potential reductions in noise emissions from newer machines, would result in long-term, beneficial, cumulative impacts on aquatic fauna in this area.

### **Impacts of the No-Action Alternative**

Page 124, Cumulative Impacts — Change the text as follows:

**Cumulative Impacts.** Long-term beneficial impacts could be expected from a reduction of PWC use in NPS jurisdictional waters. However, no change is expected in PWC use in areas outside of NPS jurisdictional waters. In addition, motorized boat use in deeper waters and in areas outside the national seashore boundary are expected to continue, so impacts would be long term and moderate to possibly major, similar to alternative A.

Page 124, Conclusion — Change the second paragraph (cumulative impacts) as follows:

No change is expected in PWC use in areas outside NPS jurisdictional waters or in motorized boat use is expected in deeper waters and in areas outside the national seashore boundary, so impacts on aquatic fauna would be moderate to possibly major, the same as alternative A. Long-term beneficial impacts could be expected from banning PWC use in NPS jurisdictional waters.

## **THREATENED, ENDANGERED, OR SPECIAL CONCERN SPECIES**

### **IMPACT OF PWC USE ON SUCH SPECIES**

Page 128, “Impacts of Alternative A” Analysis — Change the text of 2<sup>nd</sup> full paragraph as follows:

Implementation of alternative A is not likely to adversely affect federally listed sea turtles documented to occur in the area. Direct impacts would be unlikely because turtles are expected to avoid areas where PWC use occurs due to related underwater noise and disturbance. Based on the review of the proposed action and the action location, the National Marine Fisheries Service stated that it does not appear that there is an action on which to consult and, therefore, Section 7 consultation may be required (see appendix A B).

Federally protected whales documented to occur off the coast of New York, including the endangered northern right whale, humpback whale, and fin whale, are not expected to be affected by PWC use at Fire Island National Seashore; however, once a federal action

(alternative) is decided on, Section 7 consultation may be required according to the National Marine Fisheries Service (see appendix A-B).

**Impacts of Alternative C — Continue PWC Use under a Special NPS Regulation with Additional Management and Geographic Restrictions, but Limit Use to Areas Adjacent to Beach Communities and Enforce a 1,000-Foot Buffer along all Shorelines within the NPS Boundary**

Page 130, Analysis — Change the text as follows:

**Analysis.** Under this alternative PWC use would be limited to beach community access channels, areas adjacent to beach communities and users would have to stay 1,000 feet away from any shoreline (including smaller island shorelines). PWC users operating in access channels and ferryways must maintain a ~~no~~ flat-wake speed.

Effects to federally listed threatened or endangered species as a result of PWC use would be similar to those discussed under alternative A; however, limiting use to access channels, enforcing flat-wake restrictions in the channels to the east of the Sunken Forest, and restricting PWC use within 1,000 feet of any shoreline would minimize potential impacts to sensitive shorebirds using shoreline habitats for nesting, foraging, or resting. Alternative C is not likely to adversely affect federal or state listed threatened or endangered species within Fire Island National Seashore.

Page 130, Conclusion — Change the text as follows:

**Conclusion.** Alternative C is not likely to adversely affect federal or state listed threatened or endangered species at Fire Island National Seashore. Effects would be similar to those discussed under alternative A; however, limiting use to access channels to the east of the Sunken Forest and restricting PWC use within 1,000 feet of any shoreline would further minimize potential impacts to sensitive shorebirds.

## **SHORELINE AND SUBMERGED AQUATIC VEGETATION**

### **IMPACT TO SHORELINE VEGETATION/ WETLAND HABITATS FROM PWC USE**

**Impacts of Alternative C — Continue PWC Use under a Special NPS Regulation with Additional Management and Geographic Restrictions, but Limit Use to Areas Adjacent to Beach Communities and Enforce a 1,000-Foot Buffer along all Shorelines within the NPS Boundary**

Page 134, Analysis — Change the text as follows:

**Analysis.** Under this alternative PWC use would be ~~allowed adjacent to beach communities; but no PWC use would be allowed closer than 1,000 feet to any shoreline, except in corridors established to access beach communities. PWC users operating in ferryways must maintain a no wake speed-~~ limited to beach community access channels and ferryways, and users would have to stay 1,000 feet away from any shoreline (including smaller island shorelines). PWC users operating in access channels would be required to maintain a flat-wake speed.

## IMPACT ON SENSITIVE SUBMERGED AQUATIC VEGETATION FROM PWC ACCESS

**Impacts of Alternative C — Continue PWC Use under a Special NPS Regulation with Additional Management and Geographic Restrictions, ~~but Limit Use to Areas Adjacent to Beach Communities and Enforce a 1,000-Foot Buffer along all Shorelines within the NPS Boundary~~**

Page 136 — Change the alternative title as shown above.

## VISITOR EXPERIENCE

### IMPACTS OF PWC USE ON VISITOR EXPERIENCE GOALS

**Impacts of Alternative C — Continue PWC Use under a Special NPS Regulation with Additional Management and Geographic Restrictions, ~~but Limit Use to Areas Adjacent to Beach Communities and Enforce a 1,000-Foot Buffer along all Shorelines within the NPS Boundary~~**

Page 141, Analysis — Change the text as follows:

**Analysis.** This alternative is the same as alternative B except that, in national seashore areas remaining open to PWC use (area I), a 1,000-foot buffer zone would be enforced. In addition, and a no flat-wake zone would be implemented within designated access channels and ferryways throughout the national seashore.

*Impact on PWC Users* — Impacts to PWC users would be similar to alternative B except PWC users would be banned within 1,000 feet of any shoreline and ~~no flat-wake zones~~ would be implemented in designated access channels and ferryways; however, within nearshore shallow waters, PWC users do not usually operate at high speed. Changes for PWC users would be readily apparent and likely long term; as a result, some users could reduce their use of Fire Island National Seashore waters and go to other areas. The impact for PWC users would be long term and minor to moderate.

*Impact on Other Boaters* — Interactions between other boaters and PWC operators would continue on a limited basis within park waters open to PWC use, but potential impacts to visitor experiences would be reduced because of the 1,000-foot buffer around all national seashore lands and the areas closed to PWC use (excluding access channels) east of the Sunken Forest. Based on this analysis, alternative C would have negligible adverse and beneficial effects on the visitor experiences of other boaters now and in the future.

*Impact on Other Visitors* — This alternative would have the same effect as alternative B; however, with the enforcement of a 1,000-foot buffer west of the Sunken Forest, there would be a reduction in potential impacts to visitors in areas open to PWC use. The effect on park visitors would continue to be negligible during the off-season or non-peak hours (weekdays) and would be reduced during peak PWC use times. Therefore, alternative C would have beneficial effects on the visitor experiences of other visitors.

Page 141, Conclusion — Change the text as follows:

**Conclusion.** Alternative C would have beneficial impacts to the experiences of visitors other than PWC users. There would be minor to moderate adverse impacts to PWC users as a consequence of closing areas of the national seashore to PWC use, prohibiting use within the 1,000-foot buffer zone, and requiring ~~no flat-wake~~ speeds in designated access channels and

ferryways. However, PWC users would still be allowed to operate outside the restricted areas and ~~no~~ flat-wake zones at the west end of the island.

## VISITOR SAFETY

### IMPACT TO VISITOR SAFETY FROM PWC USE

**Impacts of Alternative C — Continue PWC Use under a Special NPS Regulation with Additional Management and Geographic Restrictions, ~~but Limit Use to Areas Adjacent to Beach Communities and Enforce a 1,000-Foot Buffer along all Shorelines within the NPS Boundary~~**

Page 145, Analysis — Change the text as follows:

**Analysis.** Similar to alternative B, alternative C would allow PWC use only within designated areas adjacent to beach communities east of the Sunken Forest, but a 1,000-foot buffer zone where PWC use was prohibited would also be established. An additional management restriction would be the requirement to operate at ~~no~~ flat-wake speeds within designated access channels and ferryways within the seashore boundary.

The potential for impacts to visitor safety resulting from PWC use would be eliminated in areas where PWC use would no longer be allowed and would be further reduced in the designated access channels and ferryways as a result of the ~~no~~ flat-wake regulation. Swimmers would benefit from restrictions on PWC use.

Page 145, Conclusion — Change the text as follows:

**Conclusion.** Alternative C would eliminate the potential for PWC-related accidents within the restricted use areas of the national seashore. ~~No~~ Flat-wake restrictions in the designated access channels and ferryways would reduce the potential for accidents, with negligible to possibly minor adverse impacts.

## SOCIOECONOMIC EFFECTS

### BENEFIT-COST ANALYSIS

Page 148, Table 36 — Revise as follows:



TABLE 36: SOCIOECONOMIC IMPACT OF ALTERNATIVES ON USER GROUPS

User Group	Alternative C: Continue PWC Use <u>under a Special NPS Regulation with Additional Management and Geographic Restrictions</u> but Limit Use to <u>Adjacent Beach Communities and Enforce 1,000-foot Buffer around the National Seashore</u>
Local Residents	Similar to alternative B except the decline in welfare could be somewhat greater because PWC access would be limited to <u>designated channels and ferryways</u> .

### COSTS TO PWC USERS

Page 150 — Revise the fourth sentence of the first paragraph as follows:

Alternative C would impose the same restrictions as alternative B, with the addition of a 1,000-foot buffer around the national seashore within area I and the restriction of PWC use to designated channels and ferryways east of the Sunken Forest ~~for all waters except for the ferry channels, where a no flat-wake restriction would also be implemented.~~

### NATIONAL SEASHORE MANAGEMENT AND OPERATIONS

#### IMPACT TO PARK OPERATIONS FROM INCREASED ENFORCEMENT NEEDS

**Impacts of Alternative C — Continue PWC Use under a Special NPS Regulation with Additional Management and Geographic Restrictions, but Limit Use to Areas Adjacent to Beach Communities and Enforce a 1,000-Foot Buffer along all Shorelines within the NPS Boundary**

Page 152, Analysis — Change the text as follows:

**Analysis.** Additional PWC use restrictions under alternative C (maintaining a 1,000-foot buffer around the national seashore in area I and requiring ~~no flat-wake~~ zones within designated channels and ferryways) would limit PWC use as a recreational activity in this area and favor its use as a transport vehicle.

#### CONFLICT WITH STATE AND LOCAL ORDINANCES AND POLICIES REGARDING PWC USE

**Impacts of Alternative C — Continue PWC Use under a Special NPS Regulation with Additional Management and Geographic Restrictions, but Limit Use to Areas Adjacent to Beach Communities and Enforce a 1,000-Foot Buffer along all Shorelines within the NPS Boundary**

Page 153, Analysis — Change the text as follows:

**Analysis.** Like alternative B, management of PWC use would continue to be consistent with New York State boating laws and regulations where PWC use was allowed within the national seashore. ~~PWC use would be limited to areas adjacent to beach communities; however, A~~ 1,000-foot buffer would be enforced around the national seashore, with designated channels providing access to beach communities, and PWC users would be required to maintain ~~no~~ flat-wake speeds within these designated channels and ferryways. PWC regulations would not conflict with state and local ordinances and policies; therefore, there would be no impact on national seashore management.

## REFERENCES CITED

Add the following references:

American Canoe Association

- 2001 "Hostile Waters—The Impacts of Personal Watercraft Use on Waterway Recreation."  
Available at [www.acanet.org](http://www.acanet.org).

Harris Miller Miller & Hanson, Inc.

- 2002 *Draft Technical Report on Noise: Personal Watercraft and Boating Activities at Glen Canyon National Recreation Area*. Produced under contract to the National Park Service. Harris Miller Miller & Hanson, Inc.

Miller, G. C., C. Hoonhout, E. Sufka, S. Carroll, V. Edirveerasingam, B. Allen, J. Reuter, J. Oris, and M. Lico

- 2003 "Environmental Assessment of the Impact of PAH on Lake Tahoe and Donner Lake."  
Unpublished final report. Prepared for the Tahoe Regional Planning Agency.

Tahoe Regional Planning Agency

- 1998 *Lake Tahoe Motorized Watercraft Report—An Integration of Water Quality, Watercraft Use and Ecotoxicology Issues*. Preliminary draft report prepared for the Tahoe Regional Planning Agency.

[This page intentionally left blank.]

National Park Service

U.S. Department of the Interior

Fire Island National Seashore



---

# **Summary of Public Comments and Responses for the Fire Island National Seashore Personal Watercraft Use Proposed Rule**

Prepared by:  
The Louis Berger Group, Inc.

December 2004

## SUMMARY OF COMMENTS

A proposed rule was published for public comment on August 23, 2004, with the comment period lasting until October 22, 2004. The National Park Service received 528 timely written responses regarding the proposed regulation. Of the responses, 527 were on a petition supporting the no action alternative and one was from an individual opposing PWC use in national parks. The National Park Service documented approximately 4,600 comments regarding the EA. More than 1,300 were in support of continuing PWC use as currently managed and approximately 740 supported the no action alternative, or the complete ban of PWC within Fire Island National Seashore. Approximately 1,600 comments opposed the preferred alternative as originally proposed, prompting the development of the modified alternative C. The remaining comments addressed individual items within the EA.

Within the analysis, the term “commenter” refers to an individual, organization, or public agency that responded. The term “comments” refers to statements made by a commenter.

## GENERAL COMMENTS

1. Several commenters stated that PWC should not be singled out for analysis and restriction.

NPS Response: The plan was not designed to determine if personal watercraft caused more environmental damage to park resources than other boats, but rather, to determine if personal watercraft use was consistent with the park’s enabling legislation and management goals and objectives.

2. One commenter stated that allowing PWC use violates the park’s enabling legislation and NPS mandate to protect resources from harm.

NPS Response: No part of the settlement agreement or NPS analysis of PWC use has violated or overturned Fire Island National Seashore’s enabling legislation. Both the personal watercraft settlement agreement and the authorizing legislation for Fire Island were considered when developing alternatives for this Environmental Assessment. The objective of this Environmental Assessment, as described in the “Purpose and Need” Chapter, was derived from the enabling legislation for the national seashore. As further stated in this chapter, a special analysis on the management of personal watercraft was also provided under each alternative to meet the terms of the settlement agreement between the Bluewater Network and the National Park Service. As a result, the alternatives presented in the Environmental Assessment protect resources and values while providing recreational opportunities at Fire Island National Seashore. As required by NPS policies, the impacts associated with personal watercraft and other recreational uses are evaluated under each alternative to determine the potential for impairment to park resources. Alternative C would not result in impairment of park resources and values for which the national seashore was established.

The seashore’s mission statement grows from the park’s legislated mandate and is a synthesis of the park’s mandated purpose and its primary significances which includes a commitment “to providing access and recreational and education opportunities to Fire Island National Seashore visitors in this natural and cultural setting close to densely populated urban and suburban areas.”

3. One commenter states that the EA does not use the best available data and violates the court settlement with the Bluewater Network.

NPS Response: A summary of the NPS rulemaking and associated personal watercraft litigation is provided in Chapter 1, Purpose of and Need for Action, Background. NPS believes it has complied with the court order and has assessed the impacts of personal watercraft on those resources specified by the judge, as well as other resources that could be affected. This analysis was done for every applicable impact topic with the best available data, as required by Council on Environmental Quality Regulations (40 CFR 1502.22). Where data was lacking, best professional judgment prevailed using assumptions and

extrapolations from scientific literature, other park units where personal watercraft are used, and personal observations of park staff. The NPS believes that the environmental assessment is in full compliance with the court-ordered settlement and that the rationale for limited use within the national recreation area has been adequately analyzed and explained.

4. One commenter is concerned about the use of Federal Aid in Sport Fish Restoration Act (FASFRA) funds to construct boat launches and facilities.

NPS Response: There are no provisions within the proposed alternative for boat launches and facilities. Landing zones are designated by the NPS for access only by PWC users. No FASFRA funds are used within the national recreation area to construct boat launches.

5. Several commenters stated that the decision violates the Organic Act, and other NPS laws, and will result in the impairment of resources.

NPS Response: The “Summary of Laws and Policies” section in the “Environmental Consequences” chapter summarizes the three overarching laws that guide the National Park Service in making decisions concerning protection of park resources. These laws, as well as others, are also reflected in the NPS *Management Policies*. An explanation of how the Park Service applied these laws and policies to analyze the effects of personal watercraft on Fire Island National Seashore resources and values can be found under “Impairment Analysis” in the “Methodology” section of the EA.

An impairment to a particular park resource or park value must rise to the magnitude of a major impact, as defined by its context, duration, and intensity and must also affect the ability of the National Park Service to meet its mandates as established by Congress in the park’s enabling legislation. For each resource topic, the environmental assessment establishes thresholds or indicators of magnitude of impact. An impact approaching a “major” level of intensity is one indication that impairment could result. For each impact topic, when the intensity approached “major,” the park would consider mitigation measures to reduce the potential for “major” impacts, thus reducing the potential for impairment.

The PWC Use Environmental Assessment is a proactive measure to protect national seashore resources from harm. The purpose of the EA is to assess the impacts of PWC use on identified resources within the seashore boundaries. The National Park Service finds that the revised preferred alternative (alternative C), if implemented, would not result in an impairment of park resources and values for which the Fire Island National Seashore was established.

## COMMENTS REGARDING THE PREFERRED ALTERNATIVE

Approximately 36 percent of all EA comments on the alternatives addressed alternative A. The 1,320 comments received regarding alternative A included one petition with 1,228 respondents and one petition with four respondents in support of Alternative A. Less than one percent of all EA comments on the alternatives addressed alternative B. Approximately 44 percent of all EA comments on the alternatives concerned Alternative C. Comments included a petition with 73 respondents that opposed Alternative C. Many comments questioned the enforceability of a buffer and suggested a ban would be more effective. Approximately 20 percent of all EA comments on the alternative were in favor of the no-action alternative. Three petitions in favor of this alternative were received including 44 respondents from the Bluewater Network, 297 respondents from an unknown source, and 66 respondents from another unknown petition. The majority of comments received for the no-action alternative were in support of a complete ban on PWC. All 529 comments received on the proposed rule were in favor of the no-action alternative.

6. Several commenters stated that the area restrictions in the preferred alternative seem arbitrary and difficult to enforce.

**NPS Response:** Alternative C, the preferred alternative, has been revised to address public comment. The revised alternative C would continue to allow PWC in the areas adjacent to access to the national seashore with additional management and geographic restrictions. PWC would be allowed to operate in Great South Bay from the western boundary of the national seashore adjacent to Robert Moses State Park, east to the western boundary of the Sunken Forest, excluding any area within 1,000 feet of the national seashore shoreline including East Fire Island and West Fire Island; navigation channels marked by buoys or identified on the NOAA navigational chart (12352) to include access channels to and from Fair Harbor, Dunewood, Lonelyville, Atlantique, Cherry Grove, Fire Island Pines, Davis Park, Great Gun Beach, Moriches Inlet, and to the communities of Kismet, Saltaire, Ocean Beach, Ocean Bay Park, Point O'Woods, Oakleyville, and Water Island at "flat wake speed"; and the Long Island Intracoastal Waterway within the park boundaries.

PWC would be prohibited from operation all waters from the shoreline to 1,000 feet offshore between the west boundary of Moriches Inlet to the east boundary of Robert Moses State Park on the Atlantic Ocean side of the national seashore.

Alternative C allows for access throughout the park in designated channels and ferryways; thus, maintaining an equilibrium between visitor use and the protection of resources.

## COMMENTS REGARDING AIR QUALITY

7. One commenter stated that the analysis failed to mention the impact of PWC permeation losses on local air quality.

**NPS Response:** Permeation losses of VOCs from personal watercraft were not included in the calculation of air quality impacts primarily because these losses are insignificant relative to emissions from operating watercraft. Using the permeation loss numbers in the comment (estimated to be half the total of 7 grams of losses per 24 hours from the fuel system), the permeation losses per hour are orders of magnitude less than emissions from operating personal watercraft. Therefore, including permeation losses would have no effect on the results of the air quality impact analyses. Also, permeation losses were not included because of numerous related unknown contributing factors such as number of number of personal watercraft refueling at the reservoir and the location of refueling (inside or outside of the airshed).

8. One commenter stated that the use of the study by Kado et al to suggest that the changeover from two-stroke carbureted to two-stroke direct injection engines may increase emissions of polycyclic aromatic hydrocarbons ("PAH") is in error.

**NPS Response:** The criteria for analysis of impacts from PWC to human health are based on the National Ambient Air Quality Standards (NAAQSs) for criteria pollutants, as established by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act, and on criteria pollutant annual emission levels. This methodology was selected to assess air quality impacts for all NPS EAs to promote regional and national consistency, and identify areas of potential ambient standard exceedances. PAHs are not assessed specifically as they are not a criteria pollutant. However, they are indirectly included as a subset of Total Hydrocarbons (THC), which are assessed because they are the focus of the EPA's emissions standards directed at manufacturers of spark ignition marine gasoline engines (see 4 October, 1996 Federal Register Vol. 61, No. 194, page 52088 et seq.). Neither peak exposure levels nor NIOSH nor OSHA standards are included as criteria for analyzing air quality related impacts except where short-term exposure is included in a NAAQS. The methodology for assessing air quality impacts was based on a combination of annual emission levels and the NAAQSs, which are aimed at protection of the public. OSHA and NIOSH standards are intended primarily for workers and others exposed to airborne chemicals for specific time periods. The OSHA and NIOSH standards are not as suitable for application in the context of local and regional analysis of a park or recreational area as are the ambient standards, nor are they intended to protect the general public from exposure to pollutants in ambient air.

9. One commenter expressed concern on the use of SUM06 data and requested a more detailed analysis of the air quality impacts associated with opening corridors to PWC use because the alternatives considered in the EA, other than the no action alternative, do not comply with General Conformity Regulations.

NPS Response: To assess the impact of ozone on plants, the 5-year ozone index value was calculated and is represented as SUM06. The Air Resources Division of the National Park Service, based on local monitoring site data, developed SUM06 values used in each analysis.

The air quality impacts of the various alternatives were assessed by considering the existing air quality levels and the air quality related values present, and by using the estimated emissions and any applicable, EPA-approved air quality models. Cumulative impacts were analyzed quantitatively for all recreational watercraft. Fire Island National Seashore maintains vehicular access to the park for cars, trucks, and recreational vehicles; emissions from these vehicles and other local and regional sources of air pollutants were not assessed quantitatively but were considered qualitatively in the cumulative impact assessment.

Located within the ozone non-attainment area, the proposed actions are subject to the requirements and emission threshold set by the federal conformity rules (40 CFR Part 93), in which the emission threshold set for ozone precursor pollutants — nitrogen oxides (NO<sub>x</sub>) or volatile organic compounds (VOC) — is 25 tons/year. All ambient air quality levels except ozone meet the national ambient air quality standards.

The Fire Island National Seashore area, located in Suffolk County, New York, is designated by the U.S. Environmental Protection Agency as in severe nonattainment for ozone, and as in attainment for all other criteria pollutants (CO, NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, and lead). The Division of Air Resources within the New York State Department of Environmental Conservation has included control measures and has accounted for limited growth related to ozone precursor sources, such as nonroad marine engines, in the State Implementation Plan. The Division of Air Resources predicts that Suffolk County will attain the national air quality standard for ozone by 2007 (allowances for emissions of these pollutants are documented in appendix N of the State Implementation Plan). The proposed action and alternatives are subject to federal conformity review but are not predicted to add pollutants not already included in the state plan; therefore, the proposed action and alternatives are presumed to conform with the state plan, and a conformity determination is not required (40 CFR 93.158).

10. Several commenters stated that research indicated that direct-injection 2-stroke engines are dirtier than 4-stroke engines.

NPS Response: It is agreed that two-stroke carbureted and two-stroke DI engines generally emit greater amounts of pollutants than four-stroke engines. EPA NONROAD model factors differ from those for CARB. As a result of the EPA rule requiring the manufacturing of cleaner PWC engines, the existing carbureted 2-stroke PWC will, over time, be replaced with PWC with less-polluting models. This replacement, with the anticipated resultant improvement in air quality, is parallel to that experienced in urban environments as the automobile fleet becomes cleaner over time. At Fire Island National Seashore, implementation of alternatives A, B, and C would accelerate this improvement.

11. The EA erroneously assumes that none of the PWC operating in Fire Island NS would meet the CARB standards. The quantitative emissions analysis performed by Sierra Research also refutes the EA's use of the term "major" to describe current impact of ozone precursors emitted by PWC.

NPS Response: The NPS emissions calculations are conservative only in the sense that it does not specifically account for watercraft that have already been or will be converted to meet CARB standards. Any reductions in emissions resulting from implementing control strategies were taken into account, as were changes in emissions resulting from increased or decreased usage. In addition, located within the ozone non-attainment area, the proposed actions are subject to the requirements and emission threshold set by the federal conformity rules (40 CFR Part 93), in which the emission threshold set for ozone



precursor pollutants — nitrogen oxides (NO<sub>x</sub>) or volatile organic compounds (VOC) — is 25 tons/year. All ambient air quality levels except ozone meet the national ambient air quality standards.

## COMMENTS REGARDING WATER QUALITY

12. One commenter stated that the analysis disregarded or overlooked relevant research regarding impacts to water quality from PWC use.

NPS Response: The protection of water quality within the national seashore has been addressed in the Draft EA in a conservative evaluation of surface water quality impacts. Estimated minimum threshold volumes of water were determined for the PWC use areas where concentrations of gasoline constituents discharged from personal watercraft and other outboard engines could potentially be toxic to aquatic organisms or humans. Using the estimated threshold volumes, volumes of the areas being evaluated, PWC and other motorboat high-use-day loadings of chemicals identified as constituents of gasoline, and water quality benchmarks, it is possible to identify potentially unacceptable impacts to human health or the environment. Chronic water quality benchmarks protective of aquatic populations and protective of human health were acquired from various sources, including USEPA water quality criteria. Potential impacts to wildlife and plants from personal watercraft were addressed in other sections of the Draft EA.

The evaluation of water quality impacts examined impacts from PWCs alone and in combination with other outboard motorboats. Impacts are estimated to range from “negligible” to “major” for the various combinations of alternatives, chemicals, PWCs and/or boats, and years (2002 and 2012). The descriptions for each level of water quality impacts are provided on page 95 of the Draft EA. There is no conclusion in the Draft EA that PWC would have “little impact” on water quality in Fire Island National Seashore as described in the comment. Further, it is not conjectured that “all petroleum compounds evaporate into the atmosphere”.

The referenced NAS report, *Oil in the Sea III: Inputs, Fates, and Effects*, focuses on impacts to the marine environment but acknowledges contribution from land based uses. The Executive Summary of the NAS report concludes that “Federal agencies, especially EPA, should continue efforts to regulate and encourage the phase-out of older, inefficient 2-stroke engines.” The Draft EA for Fire Island National Seashore is one step in the process of evaluating the impacts of 2-stroke engines in personal watercraft on water quality in the near-shore environment under various PWC-use alternatives. As applicable to the evaluation of personal watercraft in an estuarine environment, information contained in the NAS report will be added to the discussion and assessment of water quality impacts in the Fire Island National Seashore.

13. One commenter stated that the analysis represents an outdated look at potential emissions from an overstated PWC population of conventional 2-stroke engines, and underestimated the accelerating changeover to 4-stroke and newer 2-stroke engines. The net effect is that the analysis overestimates potential PWC hydrocarbon emissions, including benzene and PAHs.

NPS Response: PWIA notes that direct-injection engines have been available in PWC for four years; and three PWC manufacturers introduced four-stroke engines for the 2002 model year (PWIA, May 28, 2002). EPA assumes that the existing two-stroke engine models would not be completely replaced by newer PWC technology until 2050 (40 CFR 89, 90, 91). The assumption of all personal watercraft using 2-stroke engines in 2002 is recognized as conservative. It is protective of the environment yet follows the emission data available in CARB (1998) and Bluewater Network (2001) at the time of preparation of the EA. The emission rate of 3 gallons per hour at full throttle is a mid-point between 3 gallons in two hours (1.5 gallons per hour; NPS 1999) and 3.8 to 4.5 gallons per hour for an average 2000 model year personal watercraft (Personal Watercraft and Bluewater Network 2001). The assumption also is reasonable in view of the initiation of production line testing in 2000 (EPA 1997) and expected full implementation of testing by 2006 (EPA 1996).

Reductions in emissions used in the water quality impact assessment are in accordance with the overall hydrocarbon emission reduction projections published by the EPA (1996). EPA (1996) estimates a 52% reduction by personal watercraft by 2010 and a 68% reduction by 2015. The 50% reduction in emissions by 2012 (the future date used in the EA) is a conservative interpolation of the emission reduction percentages and associated years (2010 and 2015) reported by the EPA (1996) but with a one-year delay in production line testing (EPA 1997).

The estimate of 2.8 mg/kg for benzo(a)pyrene in gasoline used in the calculations is considered conservative, yet realistic, since it is within the range of concentrations measured in gasoline according to Gustafson et al. (1997).

The assumption was made that contamination from MTBE would be non-existent with the banning of the use, sale, or importation of fuels containing this additive beginning in 2004 (NY State Governor's Office 2000). It is not clear what additive will substitute MTBE. Consequently, emission calculations excluded MTBE after 2004.

14. One of the commenters stated that the analysis overstates the potential water quality impacts of resuming PWC use because the newer engine technology is not taken into account.

NPS Response: PWIA notes that direct-injection engines have been available in PWC for four years; and three PWC manufacturers introduced four-stroke engines for the 2002 model year (PWIA, May 28, 2002). EPA assumes that the existing two-stroke engine models would not be completely replaced by newer PWC technology until 2050 (40 CFR 89, 90, 91). The assumption of all personal watercraft using 2-stroke engines in 2002 is recognized as conservative. It is protective of the environment yet follows the emission data available in CARB (1998) and Bluewater Network (2001) at the time of preparation of the EA. The emission rate of 3 gallons per hour at full throttle is a mid-point between 3 gallons in two hours (1.5 gallons per hour; NPS 1999) and 3.8 to 4.5 gallons per hour for an average 2000 model year personal watercraft (Personal Watercraft and Bluewater Network 2001). The assumption also is reasonable in view of the initiation of production line testing in 2000 (EPA 1997) and expected full implementation of testing by 2006 (EPA 1996).

## **COMMENTS REGARDING WILDLIFE AND WILDLIFE HABITAT**

15. Two commenters stated that the analysis lacked site-specific data for impacts to fish, wildlife, and threatened and endangered species at Fire Island National Seashore.

NPS Response: The scope of the EA did not include conducting site specific studies regarding potential effects of PWC use on wildlife species at Fire Island National Seashore. Analysis of potential impacts of PWC use on wildlife at the national seashore was based on best available data, input from park staff, and the results of analysis using that data.

16. One commenter stated that PWC use and human activities associated with their use may not be any more disturbing to wildlife species than any other type of motorized or non-motorized watercraft. The commenter cites research by Dr. Rodgers whose studies have shown that PWC are no more likely to disturb wildlife than any other form of human interaction. PWC posed less of a disturbance than other vessel types. Dr. Rodgers' research clearly shows that there is no reason to differentiate PWC from motorized boating based on claims on wildlife disturbance.

NPS Response: Based on the documents provided as part of this comment, it appears that personal watercraft are no more apt to disturb wildlife than are small outboard motorboats. In addition to this conclusion, Dr. Rogers recommends that buffer zones be established, creating minimum distances between boats (personal watercraft and outboard motorboats) and nesting and foraging waterbirds. In Fire Island National Seashore, a 1000-ft buffer and no-wake zones are proposed under the preferred

alternative. With these restrictions in mind, impacts to wildlife and wildlife habitat were judged to be negligible to minor at most locations along the shoreline.

### COMMENTS REGARDING SHORELINE/SUBMERGED AQUATIC VEGETATION

17. One commenter stated that there has been no documentation of any adverse effects to shoreline vegetation from PWC use.

NPS Response: We agree that PWC use as recommended by the manufacturer should not adversely affect submerged aquatic vegetation. At Fire Island, the primary concern is shoreline vegetation, and the analysis recognizes that PWC use would result in only negligible adverse impacts to this vegetation, mostly from PWC operators leaving their vessels and trampling vegetation.

### COMMENTS REGARDING SOUNDSCAPES

18. One commenter stated that continued PWC use at Fire Island National Seashore will not result in sound emission that exceed the applicable federal or state noise abatement standards since technological innovations by the PWC companies will continue to result in substantial noise reductions.

NPS Response: The NPS concurs that on-going and future improvements in engine technology and design would likely further reduce the noise emitted from PWC. However, given the ambient noise levels at the national seashore are negligible to minor in most cases, improved technology reductions would not significantly change impact thresholds.

19. One commenter stated that the NPS methodology was unclear and should clarify between decibels and A-weighting.

NPS Response: The impacts for this EA were weighed in decibels.

20. One commenter stated that the EA fails to recognize seashore visitor's desires to hear natural sounds.

NPS Response: The environmental assessment considered the cumulative impact of PWC and other watercraft, while qualitatively considering ambient noise levels; which could include airplanes, etc. While specific background noise studies are not available at Fire Island National Seashore, certain conditions have been taken into account given the number of PWC users in the identified study areas and land use patterns surrounding those areas. For example, it is assumed that the soundscape throughout the majority of area I is that of an active suburban area, while area II is an area of day use, and area III is more characteristic of a quiet rural town with associated tourism.

21. One commenter stated that the analysis did not include *Drowning in Noise: Noise Costs of PWC in America* and therefore the noise analysis under represents the actual impacts.

NPS Response: One of the initial tasks of the Fire Island National Seashore was a literature search. *Drowning in Noise: Noise Costs of Jet Skis in America* was one of the many studies reviewed. The reference to that study (Komanoff and Shaw 2000) was discussed in the "Summary of Available Research on the Effects of Personal Watercraft" section of the EA

### COMMENTS ASSOCIATED WITH VISITOR USE, EXPERIENCE, AND SAFETY

22. One commenter stated that the reported accident numbers involving PWC are higher because they get reported more often than other boating accidents.

NPS Response: Incidents involving watercraft of all types, including personal watercraft, are reported to and logged by National Park Service staff. A very small proportion of incidents in the recreation area are

estimated to go unreported. In the “Visitor Conflicts and Visitor Safety” section of the “Affected Environment” chapter, it is reported by the National Transportation Safety Board in 1996 personal watercraft represented 7.5% of state-registered recreational boats but accounted for 36% of recreational boating accidents. In the same year, PWC operators accounted for more than 41% of people injured in boating accidents. PWC operators accounted for approximately 85% of the persons injured in accidents studied in 1997. In other words, personal watercraft are 5 times more likely to have a reportable accident than are other boats. Despite these national boating accident statistics, impacts of PWC use and visitor conflicts are judged to be negligible relative to swimmers and minor relative to other motorboats at the national recreation area.

23. One commenter stated that the analysis did not adequately address PWC fire hazards.

NPS Response: According to the National Marine Manufacturers Association, PWC manufacturers have sold roughly 1.2 million watercraft during the last ten years. Out of 1.2 million PWC sold the U.S. Coast Guard had only 90 reports of fires/explosions in the years from 1995-1999. This is less than 1% of PWC boats having reports of problems associated with fires/explosions. As far as the recall campaigns conducted by Kawasaki and Bombardier, the problems that were associated with fuel tanks were fixed. Kawasaki conducted a recall for potentially defective fuel filler necks and fuel tank outlet gaskets on 23, 579 models from the years 1989 and 1990. The fuel tank problems were eliminated in Kawasaki’s newer models, and the 1989 and 1990 models are most likely not in use anymore since life expectancy of a PWC is only five to seven years according to PWIA. Bombardier also did a recall for its 1993, 1994, and 1995 models to reassess possible fuel tank design flaws. However, the number of fuel tanks that had to be recalled was a very small percent of the 1993, 1994, and 1995 fleets because fuel tank sales only amounted to 2.16% of the total fleet during this period (Bombardier, Inc.). The replacement fuel tanks differed from those installed in the watercrafts subject to the recall in that the replacement tanks had revised filler neck radiuses, and the installation procedure now also requires revised torque specifications and the fuel system must successfully complete a pressure leak test. Bombardier found that the major factor contributing to PWC fires/explosions was over-torquing of the gear clamp. Bombardier was legally required by the U.S. Coast Guard to fix 9.72% of the recalled models. Out of 125, 349 recalls, the company repaired 48,370 units, which was approximately 38% of the total recall, far exceeding their legal obligation to repair units with potential problems.

Further fuel tank and engine problems that could be associated with PWC fires has been reduced significantly since the National Marine Manufacturers Association set requirements for meeting manufacturing regulations established by the U.S. Coast Guard. Many companies even choose to participate in the more stringent Certification Program administered by the National Marine Manufacturers Association (NMMA). The NMMA verifies annually, or whenever a new product is put on the market, boat model lines to determine that they satisfy not only the U.S. Coast Guard Regulations but also the more rigorous standards based on those established by the American Boat and Yacht Council.

Accident data specific to Fire Island National Seashore shows no incidents of PWC catching on fire or exploding at the park. Based on the regulations imposed upon PWC manufacturers by the U.S. Coast Guard and manufacturing associations, and the continued cooperation of manufacturers to fix and assess any potential design flaws, the National Park Service deems PWC use appropriate at Fire Island National Seashore under park regulations.

24. Several commenters stated that the analysis does not adequately assess the safety threat posed to park visitors by PWC use.

NPS Response: The environmental assessment has been revised to acknowledge the reference (ACA 2001). According to New York State PWC accident trends, the number of accidents reported in the state has fluctuated from 31 reported accidents in 1994 to 140 reported accidents in 1996. However, the manufacturers of personal watercraft provide training videos with each watercraft they sell, and to date,

24 states, including New York, require some type of boater education in order to operate a personal watercraft.

Incidents involving watercraft of all types, including personal watercraft, are reported to and logged by the National Park Service, Suffolk County Marine Bureau, and the USCG or local constables. Eleven accidents or incidents involving personal watercraft have been reported at Fire Island National Seashore in the past five years. Accident information generated by the U. S. Coast Guard has been incorporated into the “Summary of National Information of the Effects of Personal Watercraft” section of the “Purpose and Need” chapter of the Final Environmental Impact Statement.

The inclusion of a buffer and the requirement of the flat-wake speeds within the specified navigation channels, as detailed in revised alternative C, will provide greater protection for swimmers, fishermen, boats at the shoreline, and people in the water and at the shoreline. Because of these measures under the modified preferred alternative (alternative C), the National Park Service has found personal watercraft use at Fire Island National Seashore to be compatible with park management objectives and values under certain regulation.

25. The EA also falls short of adequately examining the adverse impacts of PWC use to canoeist and kayakers. There is no evidence that NPS surveyed canoeist and kayakers regarding how PWC impact their visitor experience or affect the likelihood of return visits.

The seashore’s mission includes a commitment “to providing access and recreational and education opportunities to Fire Island National Seashore visitors in this natural and cultural setting close to densely populated urban and suburban areas.” The scope of the EA did not include the conduct of visitor surveys beyond the annual survey conducted by the park. Analysis of potential impacts of PWC use on visitors to the national seashore was based on best available data, input from park staff, and the results of analysis using that data.

## COMMENTS RELATED TO SOCIOECONOMICS

26. One commenter stated that the economic impacts should not outweigh environmental impacts.

NPS Response: The national seashore’s mission includes a commitment “to providing access and recreational and education opportunities to Fire Island National Seashore visitors in this natural and cultural setting close to densely populated urban and suburban areas.” The park and the Superintendent are not just considering economic impacts or environmental impacts, but must also consider the potential impacts to their visitors as well as their park mission.